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## CLINICAL LECTURE.

### LATENT NEPHRITIS, WITH SUPPRESSION OF URINE, IN CHILDREN.

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*Gentlemen:* The case which forms the text for these remarks is unhappily incomplete by reason of the failure to secure its post-mortem aspects. On this account, it has been deemed proper to present our subject, Latent Nephritis, with Suppression of Urine, in Children, in its clinical bearings alone.

The pathological divisions of the different forms of kidney disease are not as clearly defined nor their classification as universally agreed upon as, no doubt, will hereafter be the case. On the one hand, necroscopists hold that no kidney is found healthy in the person of one dying from any acute or chronic disease. On the other, those who denying this broad assertion claim that nephritis is by no means always present in the post-mortem room. Again some authorities speak of but two forms of the acute and two of chronic kidney disease, whereas others sub-divide this classification two or three fold.

This being the status of the subject, it is simply impossible to properly arrange and classify the few cases that are included in this writing or to base any conclusions upon their pathology. The confusion in this regard relating to the most frequent cause of nephritis in children, that complicating scarlatina, makes this strikingly manifest. Almost without exception, writers speak of scarlatinal nephritis as a simple entity whereas there are certainly two forms of the disease. Niemeyer<sup>1</sup> states that acute croupous nephritis and parenchymatous degeneration of the kidneys both compli-

cate scarlet fever. Delafield<sup>1</sup> says "most cases of scarlatina are complicated either by acute parenchymatous or diffuse nephritis," and so others distinctly assert the existence of more than one form of kidney complication in scarlet fever.

In connection with the recitation of the subjoined case it might be well to glance at the distinctive features of nephritis in children and in this way, perhaps, demonstrate certain of the peculiarities of the latent affection in these subjects.

What, then, are the differences, if any, between nephritis in adults and in children? They exist, it is believed: 1st, in the relations of the etiology to the disease; 2nd, in the relations of the distinct character of the group of symptoms to the disease; 3rd, in the relations of the prognosis to the disease; and 4th, in the relations of the acute and chronic forms of the disease. With regard to the etiology of the first, in adults, nephritis is due in the vast majority of cases to direct exposure to cold, damp or wet; less frequently it complicates certain infectious diseases, and in other instances it is caused by pregnancy.

According to Niemeyer<sup>2</sup> croupous nephritis, the form that is companion to the zymotic diseases, etc., is the one most frequently observed in children. Of the parenchymatous nephritis he observes: "chief among the pre-disposing causes is the temporary, and in a still greater degree, the continual exposure of the skin to the effect of cold and moisture." And of this form he speaks of its frequency of occurrence "far less in childhood than in more advanced life." In childhood, kidney disease is the result, almost always, of some zymotic disease, in the great majority of cases, scarlet fever; and is very rarely of idiopathic origin—so rarely, indeed, that in many of the text books on Children's Diseases no special mention is made of nephritis except as complicating

<sup>1</sup>Pepper's System of Medicine.

<sup>2</sup>Loco citato.

<sup>1</sup>Practice of Medicine.

one or another zymotic diseases. West<sup>1</sup> says that three-fourths of the cases of nephritis in children occurs after scarlet fever<sup>2</sup>.

Tanner & Meadows<sup>3</sup> declare that probably nine-tenths of the cases of nephritis are due to scarlet fever, and further states that "acute idiopathic inflammation of the kidneys is undoubtedly a very rare affection in childhood . . . . We cannot call to mind a single instance within our own observation." Day<sup>4</sup> quotes from Dickinson (at Children's Hospital) a series of 103 cases in which 75 were due to scarlet fever and but 5 to exposure to cold<sup>5</sup>.

Rilliet & Bartley<sup>6</sup> cite 416 cases of nephritis in children, 364 of which were secondary and 56 primary or 13.4 per cent. Of these 13 per cent. some were caused by poison, copaiba, cubebs, turpentine, squills, iodine and above all cantharides.

Bonchut (*Maladies de Nouveau Nés*) also states of nephritis of childhood, that it is "very rarely it occurs primarily, but I have seen examples." Thus we infer that nephritis in adults in most cases being due to exposure, it differs in this respect from this disease in children which is seen, in the great majority of instances, to occur as a complication to some zymotic disease.

The symptoms of nephritis in children are more pronounced and less variable than those of the nephritis of adults. In fully one-half the cases in adults the access of the disease is insidious or disguised so that it sometimes is not recognized until coma or a convulsion makes its appearance.

<sup>1</sup>Diseases of Children.

<sup>2</sup>He refers to 120 cases (those complicated by diphtheria not included).

85 succeeded to Scarlatina.

1	"	"	Measles.
8	"	"	Typhoid Fever.
1	"	"	Acute Rheumatism.
1	"	"	Ague.
2	"	"	Empyema.
1	"	"	Pyæmia.
2	"	"	Pneumonia.
1	"	"	The application of a blister.
In 14	was		Acute and idiopathic.
" 9	"		Chronic and idiopathic.

120

<sup>3</sup>Diseases of Infancy and Childhood.

<sup>4</sup>Diseases of Children.

<sup>5</sup>75 due to Scarlet Fever.

3	"	"	Measles.
1	"	"	Erysipelas.
1	"	"	Acute Rheumatism.
1	"	"	Eczema.
5	"	"	Exposure to cold.
17			from uncertain causes.

103

<sup>6</sup>*Maladies des Enfants*, 1887.

Mahomed<sup>1</sup> in discussing 100 cases of granular kidneys says that "only 26 per cent. of these cases presented the ordinary symptoms of Bright's disease, such as would have led to their disguises during life." William Carson<sup>2</sup> cites several cases of latent kidney disease in persons of advantages and education (one a physician) whose symptoms were so slight that they did not merit attention until suppression or uræmia set in. M. Debore<sup>3</sup> reports three cases of sudden death in old people aged respectively 70, 77 and 66 years, the subjects of interstitial nephritis (and cardiac hypertrophy) who, during life, exhibited no symptoms whatever, and with the exception of a slight dyspnoea for a few hours in the third case, gave no preassage of impending dissolution.

McBride<sup>4</sup> goes further and lays down a combination of symptoms, which when in sufficient accord announce the existence of renal disease before the more diagnostic signs or the urinary changes appear<sup>5</sup>. In corroboration he gives the histories of six such cases (adults) and adds that he has at least six more "now under observation and in which although the symptoms and signs usually considered as diagnostic of the small kidney have not thus far declared themselves, yet I feel very positive that before long they will be found to be present."

In the nephritis of children oedema or anasarca is almost always present (at least in those cases where the disease is severe enough to run a more than transitory course) together with fever, at the outset, vomiting anorexia and the changes in the urine.

Every practitioner can testify to the proportionate frequency of such a case as this in persons of middle life and beyond. He is called to see a patient who can give no distinct history of previous illness, though perhaps has complained of odd pains and bad feelings for some months before. The patient after an exposure has been attacked by an acute pleurisy or bronchitis. After treatment for a week, the fever has disap-

<sup>1</sup>London Lancet, 1879, page 162.

<sup>2</sup>Cincinnati Lancet and Clinic, 1883, X, page 63.

<sup>3</sup>L'Union Médicale, 1880, XXX, page 726.

<sup>4</sup>Transactions N. Y. Academy of Medicine, 1888,

III.

<sup>5</sup>These are: (a) Persistent high Sp. Gr. of urine.

(b) Frequent presence of large crystals of uric acid and more occasionally Oxalate of Lime.

(c) Persistent high arterial tension.

(d) Beginning hypertrophy of Left Ventricle.

(e) Murmurs due to high arterial tension, or arteritis deformans.

(f) Endarteritis Chronica.

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peared, the pain in the side or cough sub-  
sided but still the patient is worse instead of  
better than he was the first day of his sick-  
ness. There is, no doubt, headache, com-  
plete anorexia, perhaps vomiting, perhaps  
diarrhoea, he cannot sleep and feels feeble  
and confused. His pulse is probably slow  
and hard, his temperature but little elevated.  
At once the doctor's attention is called to the  
urine which, as expected, might be found  
scanty and containing albumen and casts.

But such a picture is an unusual one in  
children. In the chronic forms of the dis-  
eases, the nephritis, if not a continuation of  
an acute attack is almost always associated  
with and dependent upon an hypertrophied  
heart<sup>1</sup>. And as these cases often remain dor-  
mant for months and perhaps years, the  
renal affection may be supposed to be not yet  
fully established; but when once established,  
the characteristic complexion, the pale  
mucous membranes, the bad health, and the  
œdema (which will probably be found, to a  
greater or less extent) make the disease suf-  
ficiently manifest to avoid confounding it  
with any other malady.

In the acute forms in children—in the  
great body of cases that follow or accompany  
scarlatina or diphtheria, it is not of infre-  
quent occurrence, where even from day to  
day the urine is examined, to note the access  
or exacerbation of fever and even puffiness  
of the eyelids and face before the albumen is  
manifest in the urine. (And, indeed, in some  
cases the œdema and other symptoms may  
exist without any changes in the urine being  
appreciable).

The converse of this state of things is also  
true, and is of more frequent occurrence,  
namely, the presence of albumen in the urine  
without any general symptoms of nephritis.  
There are those who claim it may be thus  
found from the altered character of the blood,  
without renal disease and others, that it is  
due to a mild form of parenchymatous degeneration (or inflammation) of the kidney.

In childhood's nephritis when of suffi-  
cient severity to produce marked and char-  
acteristic symptoms in the patient, almost all  
authorities agree in the statement that dropsy  
is a symptom rarely absent. "The begin-  
ning of kidney complications (in scarla-  
tina)," says Dr. Eustace Smith<sup>2</sup>, "is gen-  
erally announced by vomiting, headache, loss  
of appetite, a dry skin and pallid complex-  
ion, an irregular pulse and a rise in temper-  
ature." Then œdema, etc., "in a certain

proportion of cases, uræmic symptoms occur."  
He makes no mention of latent cases with  
severe terminations.

Bartels<sup>3</sup> states that dropsy is "a symptom  
which is scarcely ever absent in the severer  
cases of acute parenchymatous nephritis,  
although very often absent in the milder  
cases."

Henoch<sup>4</sup> says that in the majority of cases  
there occurs œdema, more or less. Vogel<sup>5</sup>  
declares the rule to be that "in nephritis  
after scarlet fever, anasarca and effusion of  
serum into serous cavities take place."

J. H. Ripley<sup>6</sup> places himself in accord  
with the above statements and says that  
"dropsy is one of the earliest and most con-  
stant symptoms of scarlatinal nephritis."  
And these conclusions are further estab-  
lished by the fact that the current medical  
literature while attesting to the frequent  
occurrence of kidney disease with latent  
symptoms in adults most positively attests to  
the infrequency of this condition in chil-  
dren.

3rd. With regard to the prognosis the  
gravity of which in nephritis of adults and  
its favorable character in children is a sub-  
ject of such frequent observation that the  
reference to the following collection of cases  
of death from kidney disease may dismiss  
the question. Roberts<sup>7</sup> gives the total num-  
ber of deaths from kidney disease during  
one year in England as 3342—of these but  
143 (4.2 per cent.) were under 5 years of  
age and 294 (8.7 per cent.) were under 15  
years of age.

4th. The infrequency of chronic nephritis  
in children and its corresponding frequency  
in adults is also of daily clinical observation.  
Flint<sup>8</sup> says that chronic Bright's disease  
"occurs very rarely in infancy and child-  
hood" and gives a table of 52 cases, not  
one under the age of 10 years. All authori-  
ties are necessarily of accord on this subject  
and further quotation is superfluous.

The bearings of the etiology, the distinct-  
ness of symptoms, the prognosis and the  
acute or chronic character of the disease on  
nephritis in children, in reality, seem to de-  
pend on the very fact that this disease  
occurs in the young almost always as a  
complication to a zymotic disease. It is,  
therefore, acute; and it presents, very

<sup>1</sup>Liemssen's Encyclopedia.

<sup>2</sup>Lectures on Diseases of Children.

<sup>3</sup>Diseases of Children.

<sup>4</sup>Medical Record, April 28, 1883.

<sup>5</sup>Reynold's System of Medicine.

<sup>6</sup>loc. cit. p. 772.

<sup>1</sup>Day, loc. cit.

<sup>2</sup>Diseases of Children.



generally, distinct signs at its access and can be accorded a favorable prognosis.

With this view accepted, the conclusion at once appears that latent nephritis with suppression of urine is a rare occurrence in children.

Our own experience, the authority of the text books and the clinical records prove the truth of this proposition. And perhaps the truest means of proof is the knowledge of the fact that so few cases have been reported in medical literature during the past few years; whereas, less interesting and unusual cases of fondroyant symptoms in adults, the subjects of a nephritis which did not previously manifest itself, and cases of sudden suppression of urine due to different causes are of frequent citation in the journals. This is clearly shown, and as well the comparative infrequency of suppression in children in the very elaborate monograph of Dr. E. P. Fowler,<sup>1</sup> in which he describes 93 cases of complete anuria of long duration. Of these, 15 altogether were under the age of 20 years. And of these, 2 were due to valvular occlusion of ureter; they were marked by distinct symptoms. Three cases occurred with corrosive sublimate poisoning. One followed measles and gave no symptoms, and recovered. Six were the result of scarlet fever; the oldest of these was 15 years of age. In the reports, three of these cases mentioned no symptoms. In one there was but headache; in another but vomiting; and the other presented vomiting, headache, coma, etc. Three were due to uncertain causes; one, with distinct symptoms; one, not stated; even the termination of the case not given; and the other gave no symptoms at all. Hence, in these 93 cases of suppression of urine collected through the journals (issued during a period of 100 years), but seven were possibly instances of latent nephritis in children.

Now, in speaking of latent nephritis, it should be borne in mind that these cases do not constitute a separate form or variety of kidney inflammation, they simply present an aspect of the disease. An aspect which will be found to be identified by a certain constant symptomatic group, the gravity of these symptoms and the often fatal termination of the case. But, it is indeed a fact, that one of several pathological conditions may be the cause.

Latent nephritis, with suppression of

urine might be defined as an existing nephritis giving no symptoms, or none that are distinctive of kidney disease until partial or complete suppression of urine sets in.

Flint<sup>2</sup> refers to these cases when he says "coma and convulsions may occur as sequels of scarlatina, due to uræmia taking place, without either albuminuria or dropsy"—and speaks of such cases in which even the scarlatinous rash is wanting. Henoch<sup>3</sup> calls attention to the fact that these cases often deceive the attending physician, for without warning, in many instances, "the scene is opened by complete anuria."

The cases found to have been reported or referred to during the past ten years and my own case may form the ground for further conclusions; be these of greater or less importance, there is still no doubt that the recitation of these cases may prove instructive in many ways.

William G—, U. S., aged 4 years, and 6 months. Family history: father and mother both alive and healthy. Patient an only child.

Previous history: had always been healthy and was particularly bright and intelligent for his age. Had never any sickness, or any of childhood's diseases. Condition: fair complexion, well nourished and stout. Present history: saw the patient August 15, 1887. Three to four weeks previously he had complained of ill-feeling and slight sore throat, and was noticed to have some fever, which symptoms subsiding next day, no physician was called at this time. Recovery was apparently complete; the child played about and seemed as well as ever. About two weeks after, or a little over a week before the patient came under my observation he scratched his hand posteriorly at a situation between the metacarpal bones of thumb and forefinger, near the margin of the web, with a tin toy; and the following day while sailing a toy boat in the bath tub, had washed off some of the red paint from the boat on to his hand. He complained of pain and smarting in the scratch. The mother took the boy to a druggist, who gave a carbolic acid wash of fair strength, to be used as a lotion. The following day the pain grew worse, and about the scratch the skin looked red and swollen, and the dorsum of the hand beginning to swell, a physician was consulted. A mild lotion was ordered. But from day to

<sup>1</sup>"Suppression of Urine, etc."—a paper presented to N. Y. Medico-Chirurgical Soc., Dec. 14, 1881.—W. Wood & Co., N. Y.

<sup>2</sup>loc. cit.

<sup>3</sup>loc. cit.



day the swelling, pain and redness increased; and in three or four days a pimple was noticed under the chin. The next day the skin in this location grew red and the cellular tissue tumified, and then papules with pustular apices appeared. No fever was noticed. The boy's spirits remained bright and his appetite good. The swelling of face and particularly of the hand further increasing, the attending physician made an exploratory puncture at the seat of the first injury—only blood escaped. The Doctor then making known to the family his intention to lay open the hand by a free incision the following day, they grew alarmed and I was called in to take charge of the case.

On examination, August 15th, I found the patient in good general condition—appetite good, pulse 80 and strong, temperature normal. Heart, lungs, liver and spleen showed no signs of disease. Throat not inflamed. Tongue coated. The appearance and quantity of urine said to be normal—it was not examined. The dorsum of the hand was red and puffed and like a cushion; the skin quite tense and shining. The point of the incision of the day before was dark looking, from a few drops of clotted blood at the cut; no pus could be squeezed out at this point. No fluctuation at all in the hand, but the tissues had a doughy feel and pitted on pressure. The swelling terminated at the knuckles below, and at the posterior annular ligament above. Lymphatics could not be traced up the arm; glands in axilla not swollen. Under the chin the skin was red and shining and greatly puffed. Several small pustules were secreting a thin ichorous matter. The sub-maxillary glands on both sides greatly enlarged. The situation of the swelling and redness began about half an inch above the inferior edge of the lower maxilla and terminated at the situation of the pronum adami; it extended across from the angles of the jaws on either side. It was located about in the middle line. Iron-tincture of the chloride was given in large doses and poultices, first of flaxseed alone, later with yeast added, were applied to the hand and neck.

For the two following days the patient's condition slightly improved, appetite remained fair and the bowels were moved rather frequently, the motions being watery, dark and bad smelling. The swelling in the hand subsided almost entirely and that about the neck, considerably.

Aug. 18th.—It was now noticed that not-

withstanding the diminution of the local symptoms the patient did not continue to improve. He grew sleepy and apathetic; eyes looked dull, though the pupils responded readily enough to light; and he complained and cried when aroused—though when once aroused he might remain bright for half an hour or more. He was profoundly anæmic. The pulse was strong and full and hard and 52; temperature, normal. The condition of the bowels remained unchanged. The urine was asked for.

AUG. 19th.—The patient's general condition, the same. Stupor, slow pulse and normal temperature remain. The bowels moved about four times during the day. The small pustules on the face had now grown to be openings in the skin, each the size of a millet seed and were secreting pus copiously. They gave the skin a worm-eaten appearance, such as is seen in carbuncle—but they did not penetrate into the cellular tissue and no pus could be squeezed from any of them. It appeared as if the surface was suffering from rapid molecular disintegration. The hand had returned to its natural size. The site of the incision was black (gangrenous) to the extent of about one fourth of an inch in diameter. No exudation, whatever, from it. In the centre of the dorsum was a dark blue spot that did not disappear on pressure. Sensation in the hand remained. No urine had been passed since the day before; indeed, the family could not well recollect when the urine had last been voided. It was supposed possible that some had passed at the time the bowels moved, though the motions were now not watery, but were rather of pasty consistency. The family were instructed to collect urine in a separate vessel. The treatment was now directed toward establishing the flow of urine, cups and poultices to the back, morphine; nitre and digitalis, internally.

AUG. 20th.—The patient more somnolent and apathetic, skin moist, pupils small, appetite lost, has vomited; the bowels move about every five hours; no urine has been voided, pulse still from 50 to 56 and hard; temperature 98½. Local symptoms at neck and hand remain the same. The efforts towards establishing the functions of the kidneys were persevered in. There had been noticed slight twitching about the face and increasing stupor. Still no urine passed. Was seen about 11 P. M. The bladder, by percussion and palpation, found empty. Efforts to pass a catheter were unproductive owing to improper instruments; and while these efforts were persevered in, the boy

screamed and tossed and fought. He worked himself into a perfect frenzy of passion.

The patient was now noticed to be extremely pale, and bathed in a profuse perspiration and the pulse, which ten minutes before was 54 and hard, was now about 200—hardly countable and feeble. He was in a condition of collapse. Brandy and ammonia, etc., were assiduously given by the mouth and hypodermatically and heat applied to the surface of the body, but all with no effect on his condition.

Convulsions supervened and frequently occurred with varying intensity until 4.30, A. M., August 21st, when death closed the scene.

Very unfortunately an autopsy was impracticable, and much was lost that might prove valuable and important. For instance, (1) the identity of the kidney affection, (2) its probable duration, (3), and most important, the relation, if any, existing between the cellulitis and the suppression of urine. It can be conjectured only, therefore, what these relations were.

First, it is possible the kidneys were affected as a complication of the inflammation and poisoning (?) of the hand, perhaps to the extent of a suppurative nephritis (surgical kidney).

Second, the kidneys may have been primarily affected with a form of acute idiopathic inflammation, and the cellulitis supervening and taking on its extensions and grave character from the blood poisoning in consequence of the inactive renal functions. Or, thirdly, the child may have suffered from a light form of diphtheria or scarlatina, (probably the latter), at the time of the slight indisposition that occurred two weeks or so before the child became markedly ill, and that a complicating nephritis succeeded, and that the trifling injury was magnified by the disordered condition of the blood, in consequence of the nephritis.

This sequence of affairs seems to me the most probable for these reasons: the child evidently died directly from suppression of urine due to some kidney disease, and the alarming symptoms of the last few days of his life were due to uræmia.

It is hardly possible, therefore, and not at all likely that the nephritis occurred as a complication to the cellulitis, since a suppurative nephritis or any form of inflammation of the kidney would hardly have had time to develop and kill in the few days since the time the symptoms of the cellulitis became marked enough to cause systemic

disturbance to the end. Certainly it could not have been a suppurative nephritis. That there was some blood dyscrasia is also evident; but there was no apparent poison introduced into the system, as far as can be judged—positively none through the wound in the hand. The causes and the nature of the cellulitis, as it first appeared, testify to that. Is it not more likely, therefore, that this dyscrasia was the result of an antecedent nephritis?

And though there is no positive evidence that the child suffered from any infectious disease, yet the rarity of idiopathic nephritis in children and the many occasions when (especially) scarlet fever have been overlooked and not diagnosed until its complications or its contagion made it manifest, would make it appear more likely that the nephritis was due to some such cause. However, and unfortunately, both the cause and nature of the kidney affection must remain problematical.

Search through the medical literature for the past ten years shows but few cases of latent nephritis in children, as has been before stated.

For the sake of brevity these have been arranged in tabular form, giving name of reporter, where published, sex and age of the patient, the duration of the anuria and its degree, previous symptoms, if any, of nephritis; and whether oedema was at any time present; cause of nephritis; termination of the case and the results of autopsy, if performed.

It is not believed that in ten years other such cases have not occurred. First of all the condition described is not of such marked definition that one would feel disposed to always report his case. Perhaps in some the true affection is overlooked and the death certificates are written convulsions, or some are looked upon simply as a sad and sudden termination of scarlatina. But the fact remains, these cases are rare.

Rehearsing the characteristic features of the cases in the above table and comparing them, it will be seen that the majority of the cases were males (as in all forms of nephritis); only one girl appearing in the list, and in three, sex not stated. The average age is about 6 years. The youngest 1 year the oldest 17. The few cases of nephritis reported in infants at the breast seem to have been characterized chiefly and in some instances solely by oedema. Bouchut<sup>1</sup> cites two cases for the purpose of proving this

<sup>1</sup>loc. cit.

CASES OF LATENT NEPHRITIS, WITH ANURIA, IN CHILDREN.

REPORTER.	Sex.	Age.	Anuria.	Duration.	Previous Symptoms of Nephritis.	Oedema.	Cause.	Termination.	Autopsy.	Publication.
Henoch.....	—	9 Yrs.	Complete	7 Days	None	None	Scarlatinal	Death	Not stated	Lectures on Diseases of Children.
Meigs & Pepper. M	1 yr.	Not stated	Not stated	32 hrs.	?	None	Scarlatinal	Death	Not stated	Diseases of Children.
Meigs & Pepper. —	14 yrs.	Not stated	Complete	35 hrs.	None	None	Scarlatinal	Death	Not stated	Diseases of Children.
L. R. Stone.....	M	1½ yrs.	Complete	Twice 4 dys	None	None	Doubtful, possibly zymotic	Death	Ac. diffuse nephritis	Boston Med. and Surg. Jour. Vol. CIX, p. 221.
H. E. Paxton.....	M	6 yrs.	Complete	5 dys.	None	None	Possibly obstructive	Recovery	—	Lancet, September 29th, '83.
A. Semple.....	F	2½ yrs.	Partial	40 hrs.	None	Slight Doubtful, possibly zymotic	Death	Congestion of kidney	—	Med. Press & Circular, Vol. XXXVII, p. 24.
Wm. Lee.....	M	14 yrs.	Partial	Not stated	None	None	Doubtful, possibly idiopathic	Recovery	—	Maryland Med. Jour. Vol. X, p. 876.
G. F. Bates.....	M	4 yrs.	Partial	9 dys.	None	None	Scarlatinal	Death	Suppurative N.	Med. Record, Vol. XVIII, p. 431.
J. H. Ripley....	M	4½ yrs.	Complete	30 hrs.	None	None	Diphtheritic	Recovery	—	Med. Record, April, 1883.
J. L. Smith.....	—	6 yrs.	Par. then Com.	4 dys.	None	None	Diphtheritic	Death	None	Not published.
A. M. Léon.....	M	4½ yrs.	Complete	3 dys.	None	None	Doubtful, possibly zymotic	Death	None	Herein reported.

disease can occur during infancy. J. M. Booth<sup>1</sup> reports a case, 3 months of age, and J. R. Morrison<sup>2</sup> mentions two such cases aged respectively 3½ and 5 months; in all oedema was the chief and marked symptom.

In one half the cases the anuria was complete, in the rest partial and not stated.

None gave distinct evidence of nephritis before the suppression occurred. The nephritic symptoms usually appeared simultaneously with the anuria.

In those instances where the suppression was not absolute these symptoms developed gradually and insidiously, so that it would be difficult to date their exact beginning.

But whether insidious or absent, in all the early prominent and only diagnostic sign of the renal disease was the anuria<sup>3</sup>

In but three cases are the post-mortem appearances given; these presented as many forms of kidney inflammation, namely, acute diffuse nephritis, congestion of kidney and suppurative nephritis.

Henoch<sup>4</sup> speaks also of a case of hæmorrhagic scarlatinal nephritis, which presented no symptoms during life. That cases of albuminuria in the course of zymotic diseases may occur without actual kidney lesion has been referred to. But cases of this description have been reported as of parasitic origin, as well. Among others, Gancher<sup>5</sup> broadly concludes that "diphtheritic nephritis is a parasitic nephritis." He gives a fatal case which presented the same bacteria (lesser number) in the blood as in the urine.

The forms of nephritis in the cases without post-mortem history are unknown, but they are probably not identical.

Particular attention is called to the fact; that these cases, with one exception, did not present that commonest of symptoms of kidney implication in children—oedema; not even after the suppression had set in, and

<sup>1</sup>British Med. Journal, 1881, II. p. 626.

<sup>2</sup>British Med. Journal, 1881, II. p. 777.

<sup>3</sup>Instances are referred to by several authors where the first sign of scarlatina or diphtheria is the nephritis. Others go, as Prof. M. R. Levi, (in *Lo Sperimentale*, 1885, Nov.), who relates two cases, brother and sister, aged 5 and 8 years, who were brought to him at the Children's Clinic, with nephritis (with anasarca), the first signs of diphtheria that appeared in them; a brother dying of this disease shortly before. Levi claims that the first symptoms of the Diphtheria was the kidney disease, and makes proof of his views, that there can exist a "Diphtheritis sine Diphtheria," as well as a scarlatina without eruption.

<sup>4</sup>loc. citato.

<sup>5</sup>Before the Société de Biologie, in *Gaz. Med. de Paris*, 1881.



that of these cases, five were of scarlatina origin, one diphtheritic, three doubtful and possibly zymotic, one probably obstructive, and one idiopathic; and, finally, that there were but three recoveries; the obstructive case, the idiopathic case, and one Scarlatina case. The suppression in the first lasted five days, its duration in the second is not stated, and in the third was 30 hours. Dr. Ripley in the report of his case<sup>1</sup>, remarks that it is the only instance of prolonged anuria in scarlatina or diphtheria he has seen recover. This view is attested to by West<sup>2</sup>, Bartels<sup>3</sup>, Thomas<sup>4</sup> and others.

The following general conclusions are therefore presented:

1st.—Latent nephritis, with suppression of urine, is a rare affection in childhood, not so in after life.

2d.—It occurs usually as a complication of some zymotic disease, chiefly scarlatina, (as in all nephritis of children).

3d.—In these cases of scarlet fever it appears, usually, from the end of the second to the end of the third week<sup>4</sup>.

4th.—It is sometimes impossible to foresee the nephritis—such symptoms as somnolence alternating with restlessness, slow pulse, vomiting, diarrhoea, headache and anæmia should always direct attention to the kidneys. But rarely these signs do not occur until after the suppression has set in.

5th.—Contrary to the rule in kidney disease in children, œdema must not be looked for in some cases, either before or after the anuria develops.

6th.—It is known anuria may exist with complete euphonia for several hours, perhaps for days.

7th.—No particular pathological variety of nephritis occurs in these latent cases.

8th.—The prognosis is bad—about three-fourths of the cases die.

The largest quantity of liquid oxygen ever produced was two hundred grams. Yet a certain Paris newspaper finds it expedient to recommend that everybody taking out fire insurance policies, should be obliged to notify the company if there be any liquid oxygen kept on the premises, owing to its dangerous combustion-supporting properties!

<sup>1</sup>Med. Record. April, 1883.

<sup>2</sup>loc. cit. (<sup>3</sup>), loc. cit.

<sup>3</sup>Ziemssen's Encyclopedia.

<sup>4</sup>DeLafield (loc. cit.) remarks that "kidney symptoms may develop from the very first day to the end of the ninth week—that the largest number of cases develop symptoms on the 14th, the next largest on the 21st, and the next to this on the 7th day. (Tripe).

## COMMUNICATIONS.

### THE OPERATIVE TREATMENT OF APPENDICITIS.\*

BY THOMAS S. K. MORTON, M. D.

Since being requested by the directors a few days since to open the discussion of the operative treatment of appendicitis, I have taken a glance through the literature of the subject in order to offer, as it were, a consensus of opinion regarding the present status of the subject, as well as to draw conclusions from such personal experience as has fallen to my lot in this direction. Now I find myself embarrassed by the necessity of limiting my remarks to the few moments which are at my disposal and to crowd into them even bare mention of the most salient facts. Hence much must be entirely omitted and other points given scant attention.

The discussion being limited to operative treatment, pathology and diagnosis—perhaps the most interesting branches of the subject even to surgeons—are not to be touched upon, except incidentally. But I cannot refrain in passing from saying that as the ratio of appendicular to caecal inflammatory affections is probably 100 to 1, hence that differential diagnosis in diseases of this region, which is usually impossible prior to surgical interference, is neither necessary nor important, as operative procedures up to the point of establishing diagnosis are identical for all affections of the caecal region. Again, I would condemn without qualification needle explorations, as an aid to diagnosis. The procedure is inherently dangerous, and will furnish no indication that cannot otherwise be obtained.

The number of cases of appendicular disease discovered when we are upon the outlook for them is astonishing. A large proportion of peritonitis cases in males, and especially in children, arise from this disorder; and in all cases presenting abdominal pain, whether acute, chronic, or recurring, no matter where referred, we should think of and examine for possible appendicitis. I have come to be very skeptical of such conditions as are described as abdominal "cramps," "colic," etc., particularly when of frequent recurrence. Curious as it may appear, yet it is a fact that the great majority of the profession are only now beginning to recognize cases of appendicitis and its

\*Read before the Philadelphia County Medical Society, at a Special Meeting, September 28th, 1891.

consequences as such. Formerly the affection was almost universally diagnosed as any else except itself. But just in proportion as the disease continues to be more certainly recognized, so surgeons are more early operating upon cases which demand interference, and, as a consequence, the mortality from the disease, as well as from the operation, is very rapidly on the decline.

Keen has said that, "the first indication in appendicitis is to call a surgeon," that the physician, who almost invariably first sees the case, and the surgeon may together watch the case, and if operation becomes necessary, interference may be prompt and well timed; while the surgeon will have the great advantage of being already familiar with the case and not disposed to delay the operation that he may acquire such familiarity. Again Mynter has well said that "we are utterly unable to judge correctly from symptoms alone of the extent and severity of appendix lesions, and for this reason alone abdominal section is and must be the safest method of treatment" in many cases.

*When shall we operate?* Judging from the cases that I have observed and from the writings of others, I would formulate as a good working rule: to operate not later than the third day of disease, if the patient up to that time has failed to markedly improve under rest, restricted diet, purgation, and topical applications. Especially should this rule be adhered to in cases where we have failed to move the bowels—these are apt to be the fatal ones. Further than this, we should invariably operate as soon as the presence of pus is assured; when peritonitis is developing or spreading; when signs of sudden rupture of an abscess into the peritoneal cavity appear; and where septicæmia from septic absorption is taking place. In children operation must often be performed earlier than in adults, as with them the malady is more speedy in development, more fatal in tendency, and shows a greater proclivity to involve the general peritoneum.

But let me emphasize the point that *pain* is not a reliable symptom (especially when opiates have been administered) from which to judge as to whether the patient is better or worse; most weight should be given to the strength, temperature and condition of the bowels, stomach and general abdomen.

Mr. Treves urges that operation shall not be done until the fifth or sixth day, or later. But from my reading and experience I think this is too late. He argues thus because few deaths occur before the fourth or sixth day. These cases, however, really begin to die, the

third, fourth, or fifth day, although death may not actually take place before the sixth day, or later, when the possibility of benefit from operation has passed. If the case is progressing well and operation is being postponed it should be watched and observed frequently and most carefully. For we cannot predict at what moment an appendix abscess may perforate into the peritoneum or other dangerous complication arise that will instantly demand operation.

If the case is operated upon early the chances of recovery, as a rule, are exceedingly good. The mortality of appendicitis during the first forty-eight hours is almost *nil*, and the operative death-rate at that time is equally low. Later both rates increase, but the former much more rapidly than the latter. The patient, in this disease, is generally strong and well up to the moment of seizure, at which time the danger of operation *per se*, is at the minimum. Such mortality as results in operations for appendicitis, has been mainly incident to undue delay. When physicians and surgeons generally have learned definitely to recognize such cases as are operative at a time before the vital forces have been too much sapped or dangerous complications have arisen, then will the mortality rate of both disease and operation remain steadily at a low figure.

Then again the local conditions from an operative standpoint are much less serious in the early stages. We have at first simply a swollen appendix with infiltration and perhaps a few adhesions. We then do not have to deal with fetid abscess, foul surroundings, and sloughing tissues which may have given rise to intestinal gangrene and other complications, as well as to the impossibility of securing primary union of the wound. Hernia is more common as a sequel in cases where the operation is performed late and where the surroundings are gangrenous, and we can only secure healing by secondary intent.

The cry of every writer is for earlier operations. I have found no surgeon who regrets having operated early, but almost all mourn cases that were operated upon too late. No case appears where a mistake in diagnosis has been made, despite the awful array of affections which has been drawn up as liable to render uncertain the recognition of appendicitis. On the other hand very many cases opened with the expectation of finding other disorders have proved to be appendicitis.

*Who shall operate?* The operation for appendicitis may prove to be the most easy;

but it is never trivial, often trying and sometimes even baffling the skill of the very best abdominal surgeons. Hence he who undertakes operation for the removal of the appendix for disease should be equal to dealing with any of the complications and emergencies of abdominal surgery. There is scarcely a complication which occurs in abdominal disease that may not be met with in operations upon the appendix. If a man knows only how to reach the appendix it is not enough, he must be able to cope with any accident or emergency that may arise. Therefore he must have had training in general abdominal surgery.

*How shall we operate?* There are two classes of cases to be dealt with. One, the acute, where there is perhaps abscess, perforation or general peritonitis; and, second, those where operation is undertaken in the interval between acute attacks as a prophylactic measure. The indications for the latter will be considered separately further on.

The preparations for the operation are usually of a hurried nature on account of the active nature of the disease and the sudden determination that operation has become imperative. Previous purgation, if successful, will make the chances of recovery much more bright, no matter during what stage of the disease operation is performed. Cases where the bowels have been kept open from the outset of attack are always most favorable. Locally the abdomen should be cleansed as for any other operation.

All writers now agree that the incision should be lateral. Median incision is only permissible when diagnosis from other abdominal disease is not clearly made out, as where we have had suddenly developed, violent peritonitis arise without obvious cause. Even should the median incision have been made and the affection prove to be appendicitis, especially if septic, a lateral incision should still be resorted to, for it is exceedingly difficult and dangerous to drain septic appendicitis cases through a median incision, and often it is impossible to deal with complications, or with the appendix itself, except by the more direct route. I am of the opinion that almost any complication arising from appendix or cæcal disease can best be dealt with through the lateral incision. No writer has regretted making the lateral incision, although many have regretted entering through the linea alba.

This incision should be about three or four inches in length and terminate one inch and a half above Poupart's ligament. It

should be carried down to its full extent through the right linea semilunaris until the peritoneum is reached, avoiding if possible the epigastric artery which normally would be situated at the inner side of the lower extremity of the wound. I have seen serious secondary hæmorrhage from division of this artery. Having reached the peritoneum, if one does not at once get into an abscess cavity we must exercise great caution not to open the gut by mistake. Sometimes adhesions will be found binding intestine to the peritoneum in the line of incision, and in these cases it is will to go at once to the lower or upper extremity of the wound, get into the general peritoneal cavity and work upward or downward, as the case may be, to the cæcum, when all adhesions can be separated by the finger or knife and the peritoneum opened to the full extent of the external incision. Of course the incision should be increased in size if there is any difficulty in getting into the peritoneal cavity, or subsequently if difficulty arises in any manipulation from lack of working room. But as a rule the smaller the incision the better, because of the less risk of subsequent hernia. The head of the colon is then sought out. If now it is found difficult to determine the site of the appendix, the longitudinal muscular bands of the colon may readily be followed down to their termination in the root of the appendix. Then by careful manipulation one can usually trace the appendix, even through a mass of dense adhesions, and dissect it out. As a rule, in acute cases the organ will be found more or less free in the cavity of an abscess with its tip perhaps adherent to omentum or bowel. The appendix is to be dissected out with the finger, and often we do not see it until it is brought out of the wound ready to be ligated off. This manipulation closely corresponds to the modern one of removing the uterine appendages.

Now, what shall be done if the appendix is found to be bound down by a dense mass of adhesions, and if it would take a long dissection and endanger life from the time required to complete the operation? Under these circumstances I would advise that the appendix be left alone rather than run any great risk of the patient's life to complete an ideal operation. We are often compelled to operate to save life, and that alone, even if we do run the risk (as of leaving the appendix) of recurrence. I do not regard the operation as complete in any case unless the appendix is removed, and we should never



hesitate to dissect out or remove the organ simply for fear of opening up the general peritoneal cavity.

Cases of recurrence of with great violence of symptoms are upon record where operation had been performed and the appendix not removed. Here, again, we have a parallel with the removal of the uterine appendages. Who considers that he has done a complete operation when he simply drains a pyo-salpinx? yet there is a small (but constantly decreasing) proportion of these cases that must be so treated rather than endanger life by prolonging operation, shock, and anesthesia.

If the appendix can be excised, the question arises as to how we shall deal with it after separating all adhesions. In septic cases it will be found usually impossible to invaginate the stump, after cutting away the appendix, into the cavity of the cæcum and approximate peritoneum over the remaining opening. Where we operate between attacks the appendix, as a rule, can be dealt with in this manner and the investigated stump retained by a few Lembert sutures approximating the surfaces of the cæcum over the aperture. When, however, the organ and its surroundings are swollen and gangrenous the conditions are such that it is generally impossible to investigate the stump. It has seemed quite sufficient in these septic cases to ligate the appendix a quarter of an inch from its root with strong silk, and then cut off both the appendix and the ligature ends. But ligatures will neither become absorbed nor encapsulated where septic conditions are present, and I have seen the threads coming out of the wounds months afterward from a persisting sinus, or by ulceration. So it occurred to me that we might resort to the old surgical procedure of leaving one end of the ligature hang out of the wound. That experiment I am now trying in a recent case. Chronic ligature sinuses assist in the production of hernia by interfering with solid union.

Frequently the appendix will be found with a mes-appendix. This should be ligated *en masse* or in sections, and cut away from the appendix. Then the appendix is ligated at its base and removed. Removal of the appendix is almost universally recommended, but Mr. Treves has simply straightened an appendix which he found angulated by adhesions and left it in the wound. Mr. Tait has practiced in more than one case splitting open the appendix and inserting a fine drain tube into it. From these instances it will be seen that there exists in some

minds an almost superstitious fear of removing the appendix. Certainly no sentiment can exist concerning the ablation of the appendix such as there is in regard to the ovaries and Fallopian tubes? Having the appendix once in hand, it does not add to the dangers of the operation in the least degree to remove it, while recurrence of the disease is thereby rendered impossible.

Occasionally the appendix is found to have sloughed off at its root, leaving a ragged opening into the cæcum. In one or two cases the edges of the opening thus left have been inverted and closed successfully by Lembert sutures. In others the wound was left entirely open and packed with gauze; an intestinal fistula or artificial anus formed, but in time closed spontaneously. Yet another required a subsequent operation and Lembert sutures before it was cured.

Some surgeons recommend that in septic cases a little flap of peritoneum be sewed across the stump, or that it be tucked under a bit of omentum. I can see no advantage in this. It prolongs the operation and does no good, while by so doing we risk the formation of a secondary abscess pocket. Very many appendix stumps have been simply dropped into the wound again after ligation; fecal fistulæ did not form and the wound closed satisfactorily.

Any portions of gangrenous omentum presenting in the wound should also be ligated beyond the junction with healthy tissues and cut off.

Any small openings into the peritoneal cavity may next be sewed up carefully if the general peritoneum does not require drainage.

Then in regard to irrigation. If the general peritoneal cavity has been opened extensively, or if it is septic, it should be thoroughly washed out through the lateral incision. If it has not been involved the abscess cavity and wound alone should be irrigated. Under the latter circumstance we may employ a strong bichloride solution, but if the peritoneum is to be flushed nothing but water should be used.

If the general peritoneum has been septic or extensively opened or manipulated it is essential to use drain tubes to the base of the pelvis. The ordinary straight glass-tubes do not answer well, and rubber is not satisfactory. Here I have a collection of angulated and curved glass tubes, most of which have been used with great satisfaction in appendix cases. The angle makes it possible to get the tube to fit well over the brim of the pelvis, yet not to project awkwardly from the

lateral wound. By attaching a few inches of rubber tubing to the end of the ordinary cleansing syringe the bent tube can be cleaned.

The suturing of the wound is especially important if the case is *not* a septic one. Then the tissues should be sutured, layer by layer; this gives the best assurance of firm primary union and the avoidance of hernia. If, however, the wound is septic and drainage or packing is employed, secondary union is inevitable. But I would still urge that the wound be as carefully sutured as possible in all cases, leaving ample room for exit of the drain-tube or packing. And I might say, in passing, that simple packing with strips of double cyanide or iodoform gauze will be found to answer all purposes of drainage in cases where the general peritoneum does not also require drainage.

Some surgeons advise using no stitches in septic cases, but simply packing of the entire wound with gauze. But by suturing we can usually secure primary union in a portion of even a foul wound, and temporary stitching has appeared to give a certain anchorage and support to the subjacent intestines, which, when the sutures are removed, is more or less retained. The stitches, of course, are to be removed, one or more at a time, when swelling, infiltration, tension, or deficient drainage become apparent. Strips of adhesive plaster should be employed to give the wound support and approximation during granulation.

Complications such as gangrene of intestine or mesentery, must be dealt with upon general principles of abdominal surgery. If intestinal obstruction complicates the case, the site of obstruction should be ascertained, and the condition relieved, if possible, before closing the wound. Cases in which obstinate constipation has existed up to the time of operation, should be examined during its performance for possible obstruction.

Should peritonitis develop subsequent to operation, and not speedily yield to active purgation, the wound must be reopened, and the abdominal cavity irrigated thoroughly and drained. Continued obstruction could probably be best dealt with through a new median incision rather than through the original wound.

As soon as the patient comes out of ether, if the bowels have not been well emptied before operation, it is my custom to at once begin the administration of one-eighth grain doses each of calomel and podophyllin at twenty minute intervals, until purgation is accomplished. This usually takes but a very

few hours. Later salines may be employed if required.

Full strength peroxide of hydrogen solution has given me great satisfaction for cleansing and washing the wound-cavity when suppuration commences and sloughs are forming—it greatly facilitates the separation of the latter. Persisting faecal fistulae usually close spontaneously in time. Should they not, then reopening of the parts several months later, and suturing of the caecal or other opening with Lembert sutures is indicated, and has proved successful in several instances.

In conclusion, let me say a word in regard to operations undertaken in the interval between acute attacks, or, what may be termed, *prophylactic operative treatment*.

The indications for this measure are: Constantly recurring attacks (usually indicative of the presence of a foreign body in the appendix), which interfere with the individual gaining a livelihood, or render his life a constant burden, worry, and expense to him; also, where recurrent attacks have taken place in those, as seamen, hunters, explorers, etc., who are liable to be again attacked when they may be out of reach of adequate surgical aid. In this class of patients, operation during quiescence of the disease should be considered, and perhaps urged by the medical attendant. In most other cases, I do not think excision of the appendix should be often attempted in the quiescent period. We should rather counsel delay until the onset of the next acute seizure, when we can conscientiously urge the removal of the offending organ at once—that is, on the first or second day. This advice is given principally because of the great difficulties and dangers frequently encountered in operating during the intervals of attack when the adhesions are extremely dense. In fact, patients have died as a result of the long time required to complete the operation, because of the elaborate dissection required to free the appendix from its matrix of densely organized adhesions. In several instances the very best operators have been compelled to abandon these operations in the interval of attacks, not only without having been able to remove the appendix, but also without having been able to discover the organ in its bed of adhesions.—For discussion, see Society Reports.

Mix acids with water by pouring the acid into the water and not the water into the acid, as the latter process may cause an explosion of steam.

## SOCIETY REPORTS.

## PHILADELPHIA COUNTY MEDICAL SOCIETY.

SPECIAL MEETING SEPT. 28th, 1891.

Dr. Thomas S. K. Morton read a paper on "The Operative Treatment of Typhoid Fever" (see page 808).

## DISCUSSION.

DR. WILLIAM PEPPER:—I scarcely think that I need say much, for the subject as presented is largely one of operative technique, that the views of a purely medical clinician possibly are scarcely appropriate. Assuming that the subject under discussion includes all the acute inflammatory affections of the appendix, cæcum, and pericæcal tissues, much has been said to which I should take strong exception from the standpoint of a pure medical practitioner. I believe that if every case of appendicitis were operated on, the mortality would be tenfold what it now is. For more than a quarter of a century I have been in the habit of seeing a great many cases of appendicitis every year. I base this statement partly upon the classical researches of Dr. Fitz, who has demonstrated more clearly than any other, that in a large proportion of cases of right iliac trouble the appendix shares in the trouble, if, indeed, it is not the starting-point of the trouble. Now, as a general rule, these cases recover under medical treatment and remain permanently well afterward, no surgeon being associated in the treatment of the case. In no year during the past two decades, have I failed to see a considerable number of cases of this kind and the cases that have demanded operation, as contrasted with those which get perfectly well without operation is probably at least as one to a score. I think that the assertion that as soon as appendicitis is suspected the surgeon should be called in, is quite out of accord with the experience of physicians the world over. As I have said, I think that the vast majority of cases, in first attacks at least, undergo resolution and terminate with some more or less permanent injury to the appendix, but without going on to the production of abscess, provided the treatment be instituted early and be kept up faithfully. In many of these cases there is early development of induration and fullness in the right iliac fossa, and in proportion as this appears early is it likely that the

case will run a favorable course, or, if later, it develops signs of suppuration it will admit of treatment by the simple Willard-Parker extra peritoneal incision. In proportion as the symptoms are violent, without localizing phenomena in the right iliac fossa, is there danger that rupture of an abscess has occurred, to be followed by the development of general peritonitis. I am entirely at one with the speakers who insist on early operation where this latter condition exists. I have had the operation performed as early as thirty-six hours from the initial symptom, and have found suppurative peritonitis already present. I am sorry to say that in this case there was a fatal result, as will sometimes happen in the hands of the most skilful operator. I think that the experience of all will confirm the statement that the operation is a grave one. The operation of laparotomy for disease of the appendix, whether it is exploratory or radical, is not a trifling operation, and I have rather extensive records to show that it is an operation attended with a great deal of danger, even in the hands of the most brilliant operator. I should protest against the view that, as soon as the diagnosis of appendicitis is made, an operation should be encouraged.

I believe that it is possible to note the time, in a certain large proportion of such cases, when the symptoms indicate the spread of inflammation, and then I think that the operation cannot be too promptly performed.

The question of diagnosis remains, in spite of all the good work that has been done, a most difficult question. The McBurney point I believe to be largely without value, uncertain in its location on account of the very varying relations of the appendix, apt to be mistaken for points of tenderness due to wholly different causes, and apt possibly to be mistaken for sympathetic tenderness of nerve points in the abdominal wall. I therefore believe that this sign, from which much was hoped, will prove to have very little positive diagnostic value.

The rectal examination has seemed to me to be of very material value; it is true not so early as we could wish, but in many operative cases I have found the roof of the pelvis altered as determined by a careful rectal exploration. I feel that I am wholly incapable of putting in words, nor do I know that this has been done, the exact differential diagnosis of the cases which demand early operation. While this is true, I would still urge the view that this does not justify



the subjection of every patient with appendicitis to laparotomy. I trust that we shall learn to arrive at a more exact differential diagnosis. There is a combination of a certain history of the development of the case, which taken in connection with the *facies*, the general symptoms, and the abdominal condition, as determined by external and by rectal examination will, in the hands of an experienced clinician, serve in the great majority of cases as a basis for this diagnosis. It is difficult to state this in terms as precise as we should state the terms of a diagnosis of encysted pleurisy, but I think that in those who have studied these cases will recognize a *tout ensemble* which admits of a diagnosis of those cases which should be subjected to early operation. I believe, on the other hand, that in the great majority of cases we are justified either by the mildness of the symptoms or the localizing tendency in the right iliac fossa in urging medical treatment, and this is further justified by the very frequency of these cases.

Lastly, I shall say a word as to my entire opposition to operation in the majority of cases in the interval between recurring attacks. I think that medical records will show too many cases where thorough treatment, hygienic, dietetic, and medical has been followed by complete cure. I have had so many such cases in which cure has occurred after a number of recurrent attacks, that the adoption of a general rule that where a patient has had two, three, or more attacks he should be subjected to a grave operation like laparotomy, seems to be a dangerous postulate. I think it better to secure the consent of the patient to the performance of the operation, should alarming symptoms make their appearance in any attack, and then to persevere with carefully regulated medical treatment. There are cases unquestionably where the conditions of the patient, the fact that he may be attacked when out of reach of skilful surgical aid, make it necessary for the patient to decide between a change in his habits of life and an operation. These are exceptions, and it does not follow that a general rule that laparotomy should be performed in the interval between recurrent attacks of appendicitis, should be laid down.

DR. KEEN:—I wish to take exception to what Dr. Pepper has said in reference to not calling in a surgeon in a case of appendicitis until operation is needed. I think that it is of the most urgent importance that the

surgeon be called in not to do an operation, but for consultation for his judgment rather than his knife—not necessarily to do a laparotomy immediately—but for the purpose of being ready to deal intelligently and promptly with the conditions when the time for operation arrives. He should not be called in, then, new to the case and unfamiliar with its features, and desiring, therefore, time to become familiar with it, unless the case is so serious that operation is evidently and instantly required. The surgeon should be with the physician the moment the diagnosis is made, not to do the operation then but to be ready to do it the moment that it becomes necessary. I have seen cases lost, and have lost some myself, I am sure, from delay, from the natural unwillingness to plunge right in and do a laparotomy the moment we are called to see a case that really needs it, and yet from unfamiliarity is regarded as a doubtful case. We should have every point at our fingers' end and be familiar with the fluctuations of the symptoms. Then our aid will be much more valuable than if we are called in only when the emergency for operation has arisen. A plain case every one can read and decide quickly. It is the doubtful cases that need carefully weighed decision—a snap judgment on a sudden call is more apt to be wrong than right.

MR. THOMAS BRYANT, of London:—I assume that the term appendicitis as here used, includes all those cases which have been spoken of as typhilitis, peri-typhilitis, and by other names, all of which have probably more or less connection with the appendix itself. Starting with that assumption, I at once proceed to the treatment of appendicitis. Here at the beginning, although a surgeon, I agree very strongly with the observations of Dr. Pepper. I am convinced that operative treatment is most valuable in appendicitis. I am equally convinced that delay in operating is the wisest course in the majority of cases. I should like to say in this place that it seems to me that the authors are a little mixed in regard to the classification of these cases. They have included cases that are acute from the beginning, with cases that are not acute, that have a slow and steady course. The cases that have a slow and steady progress, that begin with localized pain in the right iliac fossa, accompanied with tenderness and soreness, less swelling without any very acute symptoms, are cases which you must feel can be dealt with satis-

factorily without the surgeon's knife; I do not say without the surgeon's aid, but without the surgeon's knife.

Dr. Morton spoke strongly of the use in these cases of calomel and podophyllin. Such statements rather startled me and I should have been glad to have had some evidence of its value given. I should prefer to follow the line of treatment suggested by Dr. Pepper and not give calomel and podophyllin in frequently repeated doses. I would rely more upon rest, belladonna externally and opium internally, and diet, believing that by such means and knowing that by such means the bulk of the cases are permanently cured. In exceptional cases where these good results do not occur and graver symptoms appear, the swelling increases and symptoms of peritonitis develop, the surgeon's aid becomes of immense value, and certainly where these symptoms do appear and there is a steady progression toward the bad, it is unquestionably time for the surgeon to take a hand. In all acute cases I have no doubt as to the right of the surgeon to interfere. I have seen cases where within thirty-six hours after such acute symptoms it was necessary for the surgeon to expose the part and let out the inflammatory fluids, if not remove the appendix itself. To my mind these two classes of cases which I have briefly described fairly indicate the line that the surgeon should take. Trusting very much to expectant treatment in the least acute cases and surgically interfering early in the acute.

In reply to the question in regard to the propriety of operating, whether or not the surgeon is justified in operating between the attacks, my judgment would decide in the negative. In the majority of cases there is no second attack. If there is a second attack it can be treated on the same lines as the first, only there is a tendency toward interference if the symptoms do not settle down rather rapidly. I say this because I am sure that I have seen many instances where things have settled down after a second attack without any further trouble. Because we have met with cases that after the second, third, fourth, or it may be the eighteenth attack, have at last come to the surgeon's knife, I think that we should not accept that as a decided evidence in favor of surgical interference. In fact, we must be governed by each case by itself, and we should surgically interfere only when we find small chances of nature terminating the case guided by medical skill.

Then we come to the operation. I am not

sure that I am quite in accord with the authors of the papers. It is quite true that in doubtful cases of appendicitis—that is, cases in which you do not expect to find a great deal of pus or inflammatory fluid, the incision in the right semilunar line will probably be the best. In this way you come down readily on the cæcum, and you are more apt to find the appendix. The majority of cases with which the surgeon has to deal are not quite in the stage to which I have referred. There is generally much more diffused swelling about the cæcum, and that swelling gravitates backward and upwards, sometimes toward the loin. I can recall a good many cases that I have opened where I was certain the swelling was about the cæcum, where it was backward toward the lumbar region. I can recall several instances in which my attention was drawn more to the lumbar region than to any other part, and it was only by going into the history that I concluded that the trouble was located in the cæcum. The lateral incision is a good one in these cases, but it must be more lateral than the semilunar line. I have made my incision well back, corresponding to the line of the anterior superior spinous process and tending backward towards the loin. In this way you get well at the cæcum and your finger can be readily passed into the iliac fossa. You can examine the part, you can drain the part well and generally by the open treatment, not being too careful to stitch the wound, a good result takes place. I would say that in a large number of cases—my friends may say neglected cases—that an incision more posterior than the semilunar line would be the better one. The incision in the semilunar line should be reserved for cases that have not advanced to such an extent as I have just indicated. If there were time I could give the Society many cases as illustrations of the truth of what I have said.

Another point to which I should like to allude is the question whether or not these are all really cases of appendicitis. In at least three instances of cases which had presented a history of a cæcal trouble, but in which death had resulted from some other cause, I have found cicatrices in the posterior part of the cæcum some distance from the appendix. In two cases that I have treated the evidence pointed to the cæcum as the seat of trouble. In one, a boy, aged twelve years, I incised an abscess, and eventually a large orange-seed escaped. I have no reason to believe that that could have come from the appendix. In the second case a piece of bone that had been swallowed had evidently

passed through the wall of the cæcum and caused suppuration. These two cases presented all the features of typical appendicitis. They were dealt with in the way that I have stated and both recovered. We must, I think, bear in mind that these cases are not all due to disease of the appendix, and that many of these may have no connection with it.

This brings me to another point, and that is whether or not, under all circumstances, it is expedient to search very carefully for the appendix.

In these severe cases should we disturb the parts so much as is often absolutely necessary? We have had to-night good evidence of the difficulty of finding the appendix in some cases. I have always felt that in these cases we should do more harm than good if we searched too far for the appendix. I am satisfied with well irrigating the part and treating it by the open method.

Dr. Morton has mentioned hernia as following the operation. I have never seen this. That may be because the bulk of my incisions have been made posteriorly. I have done many of these operations, and have seen many others done by friends, but I have never seen hernia as a result.

DR. J. M. BALDY:—It has always seemed to me that it was not so much a question of the diagnosis of appendicitis, as the differentiation between the operative and the non-operative cases. The diagnosis of appendicitis *per se* is extremely easy; at least, so I have found it. As far as symptoms are concerned, I know of only one that is of constant value, and that is, constant, deep-seated pain in the right iliac fossa, with induration. I think in such a case there is little question but that there is inflammation in or about the head of the cæcum, and, presumably in the majority of cases, in the appendix.

Mr. Bryant has spoken of cases where large foreign bodies have been discharged through an abscess, and claims they have come from the cæcum. He offers no evidence of this, except the size of the body. I have seen the appendix sloughed off, leaving a sufficient opening in the cæcum to admit the index-finger, so that I cannot see that the size of the body indicates in any way that it came from the cæcum, and not from the appendix.

I have been glad, and, at the same time, rather surprised to hear the McBurney point condemned. I believed that it is utterly worthless as a reliable point in the diagnosis. It is one of those attempts at refinement in diagnosis which are apt to lead only

too many astray. I have tried to apply McBurney's point, but have failed in every case.

The rectal examination may be of value in many cases, but we have all seen cases—and Dr. Keen's is one in point—in which there is a small abscess high up, which could by no possibility be recognized by rectal examination. If the abscess contain many ounces of pus, it will generally extend downward toward the pelvis, and may be felt through the rectum. There are, however, so many cases in which this can not be done that we can place no definite value on this method except in a limited number of cases.

I cannot help thinking that purgation is of distinct value when I see the great relief afforded to a man groaning with the most intense pain, simply from having a movement of the bowels. It may not be curative, but in every case, whether abscess is present or not, it gives great relief. I believe that purgation should always be used. At the same time, if the patient was suffering, I should not hesitate to use opium until the purgation had acted, or after it had acted in case of necessity. The amount required is not great, and it will not interfere with the purgation. Those cases in which it is difficult or impossible to induce purgation, are going to do badly.

I know of no other intra-abdominal disease in which it requires more skill and practical experience to differentiate between those cases that should be let alone surgically, and those which should be operated on. I grant that the majority of cases of appendicitis get well without any operation. Again, there are certain cases that do badly from the beginning, and in which operation is clearly indicated. But, with certainty, there remains that large class of border-line cases in which it is next to impossible to say whether pus is present or not. If there is pus no one should hesitate. The operation for abscess is simple and easy. The abscess once opened, I do not think that in these acute cases any time should be lost in searching for the appendix. In trying to find the appendix, and even when found, in trying to remove it, the general peritoneal cavity will often be opened, and life will be lost where otherwise it would have been saved. Only one case, so far as I am aware, has been reported in which the abscess has been opened and the appendix left, where a second operation was required for a severe recurrent attack.

I believe with Dr. Keen that the surgeon should be associated with the case from the



beginning, although not necessarily to operate. When a physician is called in to operate, the tendency, if there is doubt—and doubt only too often exists—is to postpone the operation. If the surgeon has seen the case from the beginning, and studied the symptoms and knows the details, when the time comes he will have made up his mind whether or not to operate. If, however, the surgeon loses another twelve or twenty-four hours in hesitation, in addition to what the physician has already lost, the patient may be irretrievably lost. The deaths after operation are due not so much to operation as to delay.

It is impossible to lay down any rule as to the time at which operation should be performed in any case, or in any class of cases. In some the onset is so sudden and violent that it is impossible to come to any decision as to the seat of disease. This was the case in the patient reported by Dr. Keen, and in another instance I know of in New Jersey. In the latter case, is was not until a few hours before death that the symptoms were sufficiently marked to cause any alarm. This is often the history of cases in which the operation is postponed. The patient will be doing well until within a few hours of death, when the end comes suddenly, and the patient sinks rapidly.

DR. FRANK WOODBURY:—Although as a physician I look at this subject from the medical standpoint, I am in favor of operating. To save time, I may say that I heartily coincide in the statements just made by Dr. Pepper. I also endorse the remarks of Mr. Bryant, in which he anticipated what I had intended to say—that is, that each case must be studied by itself. I think that the surgeon and physician look at these cases a little differently. The surgeon is looking for general rules to govern him in the treatment of cases, while the medical man is more in the habit of individualizing his patients. Concerning the propriety of operation and the results to be anticipated therefrom, we all acknowledge that there is in some individuals a tolerance to operative interference and to suppuration that does not exist in others. Some will survive dangerous gunshot wounds, others will perish from a slight injury. These are probably points that will enable us to determine this difference in tolerance of different individuals, and, were they in our possession, should undoubtedly enter into the question of operation, but at the present time, unfortunately, we are not prepared to formulate these points in any given cases of appendicitis which comes be-

fore us. Physicians, who are accustomed to go into the history of the patient and to investigate the antecedents of the case, know that individuals who belong to families with a high physical standard and who lead regular lives, are able to stand severe illnesses and operations, coming through them speedily and well, while others, having poor family history, bear very little surgical interference, and easily succumb to disease.

The question of the time of operation and propriety of operation really resolves itself into the query, "At what time does a case of appendicitis become a surgical case?" I would here raise my voice against the physician yielding to the temptation to put in a hypodermic needle into an iliac abscess or swelling in order to make the diagnosis. As soon as he does that he takes surgical responsibilities on his shoulders, and in no case are they likely to be more serious than in appendicitis. The physician should have sufficient surgical knowledge to determine when the time for operation has arrived, or, acknowledge his inability to decide this, he should secure the best obtainable surgical advice, not necessarily to operate, however, but to determine the propriety and proper time for operation, if found necessary.

Among the cases that come to my mind, three stand forth prominently. One was the first case which I saw, some eighteen years ago. A man in the lower walks of life, continued at his work as a machinist, making no complaint, until one day he fell on the floor of the shop in a collapse, and was brought to the Pennsylvania Hospital. He had a feeble pulse, and a Hippocratic face; the surface was cold, and, as he was dying, no attempt was made at diagnosis. He died in a few hours, and the post-mortem showed it to be a case of perforative appendicitis, with perforation and the usual foreign body. Here there was a question of operation. The patient did not seek medical advice, and there was no time for operation.

The last case I saw in my own practice occurred last spring, in a patient whom I had attended at intervals for a number of years. I had attended him a year before with a light attack of appendicitis, and warned him that if he had a subsequent attack he should consider the question of operation. He did have a subsequent attack while away from the city, and on his return was attended by another physician for three months. The man improved and was about, but always felt a weight and pain in the right iliac fossa. He was then taken with acute obstruction of the bowels with intense

pain, and finally I was sent for. In this case nothing that was given him produced a movement of the bowels. I may say that in this case Dr. Thomas G. Morton operated on the second day after I saw him, but the patient died five days later without a movement of the bowels. The bowels were probably matted together and gangrenous.

The third case that occurs to me is one operated on also by Dr. Thomas G. Morton five years ago, which I have reported to the College of Physicians<sup>1</sup> and to this Society. I believe that Dr. Morton claims that this was the first case in this country where the correct diagnosis was made prior to operation of amputation of the appendix, and where the patient recovered. The patient has been well since the operation, although prior to it he had had a number of attacks. The patient is present to-night, and I should be pleased to show him to the Society. He is still wearing a light truss to protect a weak place in the abdominal wall at the lower portion of the incision. [The patient was exhibited.]

DR. H. A. HARE:—I rise for information rather than to discuss the surgical aspect of the papers which we have heard. Like Mr. Bryant, I am at a loss to know why calomel and podophyllin, the latter in such large amounts as one-eighth of a grain every twenty minutes, should be given after an operation for appendicitis. Podophyllin is the slowest acting purge in the Pharmacopœia, taking eight or twelve hours to produce an effect, as a rule; not only this, but these drugs act on the small bowel, high up, while the appendix is in the large bowel, low down. If saline purgatives were ordered it seems to be a better treatment, for we have evidence of their great value. Even these are not without danger. I do not believe that a man can take one-eighth grain of resin of podophyllin every twenty minutes until he is purged without producing much intestinal griping and pain. Anstie pointed out the fact that podophyllin was a distinct irritant, particularly to the small intestine.

DR. DE FOREST WILLARD:—Mr. Bryant has said that he has not seen hernia follow this operation. A boy came into my office to-day on whom I operated two years ago. He did perfectly well for a year, when on attempting to lift a heavy body the bowel protruded through the center of the cicatrix. He had worn a bandage and a truss, but I put on a heavier truss, which relieved him

for a time. He returned in four months; the pressure of the truss had produced a large slough, and he came near having a perforation of the bowel. The ulcer finally healed. He now has at the outer angle of the wound a second small hernia, and at the inner angle there is a slight tendency to protrusion. The wound was a large one. The boy was in extremis at the time of operation, and there was an enormous accumulation of pus.

In regard to deep-seated pain and induration in the iliac fossa as a diagnostic sign, I have seen cases in whom there was not a particle of local pain or of induration.

The boy already mentioned had no such symptoms. He had been kicked at the umbilicus, and the pain was chiefly at that point, yet the abscess was in the iliac region.

The appendix was open, and a small mass of feces had escaped. There was an enormous accumulation of pus extending down into the pelvis on one side. The appendix was removed, and the opening stitched.

DR. M. F. KIRKBRIDE:—In the past year and a half I have had four cases, but shall speak only of one. I shall first refer to the history of the case as given in a letter to the previous attendant. The physician was called on Thursday, April 3. The patient had been constipated for one day. It was at first thought that the case was one of typhoid fever, as the father had recently recovered from this disease. Calomel was given, but no action secured. Citrate of magnesia was given with the same result. The pain and tenderness in the right iliac region increased. There was some tympanites. Injections of soap and water with a few drops of turpentine were practiced with no result. Salts in one drachm doses were then given without effect. Vomiting began. It became apparent that it was a case of appendicitis with obstruction of the bowels. Injections given on Saturday morning were not retained. On Saturday a surgeon was called in consultation. Operation was decided on, but as the surroundings were not suitable the family was advised to have the patient admitted to a hospital. This they agreed to do, but at 3 P. M. decided not to do so. The physician in charge then declined to have anything more to do with the case.

I was called to see the patient on Sunday evening, at ten o'clock. The temperature was 99.5°, the respiration 36. No pulse at the wrist. The heart beats 130. He vomited everything, and for several days had had stercoraceous vomiting. I gave hypodermics of morphine and atropine, and after-

<sup>1</sup>Case reported in Proceedings of the College of Physicians of Philadelphia, vol. VII.

ward hypodermics of strychnine. After he had reacted somewhat I put him in the knee-chest posture, and gave an enema of sulphate of magnesia, turpentine, glycerin, and warm water, and gave whiskey and turpentine by the mouth. I also gave for several hours sulphate of magnesia in one drachm dose. The first two doses were rejected, but afterward there was no vomiting whatever. In three hours I had the tumor removed and the boy sleeping comfortably, and after that he got along nicely. On the sixth day after I was called a slough passed from the bowel. This was three inches in diameter. The case then went through that of a regular case of typhoid fever, as far as the temperature was concerned, and even showed the eruption. The diagnosis of appendicitis was made by two physicians and an eminent young surgeon.

DR. JOSEPH HOFFMAN:—McBurney's point has been condemned, but the reasons have not been given. The position of the appendix varies. You cannot lay your finger on any special point and say that the appendix should be found. We must remember that the appendix revolves in three planes, and that, therefore, it may have three systems of revolution. We cannot expect to find the appendix in the same position. This anatomical point forever blots out McBurney's point.

In reference to purgation, I had a case of which I shall recite the points in which the use of calomel and opium comes out beautifully, so far as the apparent curative effects are concerned. Dr. Wheeler was treating a case of appendicitis with opium for some days without benefit. He then called me in and I brought Dr. Price. He was then purged with calomel after the opium treatment, and the pain entirely disappeared. Shortly afterward he went to Baltimore and had a recurrent attack, from which he died. This shows what purgation will do.

DR. M. PRICE:—We are certainly slightly mixed in the discussion of this question. The physicians are talking about appendicitis without perforation, and the surgeons of appendicitis with perforation, conditions entirely opposite. Drs. Pepper and Meigs say they never saw but one single case of perforative appendicitis get well, and they reported that case themselves. It is true that this statement was reported fifteen years ago, but that does not make the disease any the milder.

There is one other point. It is absolutely fully to operate for appendicitis and expect good results, unless you can purge the pa-

tient. If you succeed, and after the operation persist in the use of purgatives, every case, so far as I know, will recover.

If at the operation there is found a barrier separating the abscess from the general peritoneal cavity, thorough irrigation of the abscess cavity is required. If this barrier cannot be demonstrated, thorough irrigation of the whole peritoneal cavity should be insisted upon. In a case operated on five weeks ago, there was well-marked thickening and induration in the right iliac fossa. I removed five or six ounces of pus, and when I came to irrigate, although I used every precaution, I found the small intestine slipping by my finger. I washed the abdominal cavity out thoroughly, and passed in a straight glass drainage-tube, held in position by one stitch at the lower angle of the wound, and then packed with gauze down to the knuckle of the intestine. The appendix was eaten off by an ulcer, and so gangrenous that I was afraid to touch it. The man was purged every day for a week, and made an uninterrupted recovery. I may mention that I have never seen a case of appendicitis with perforation and general peritoneal inflammation without a subnormal temperature.

DR. MORTON:—There are many symptoms that have not been mentioned. Bladder irritation is a prominent symptom in some cases from inflammation or pressure on the ureter, or of the bladder wall. This brings out one of the dangers in operating on the appendix. Mr. Treves has predicted that some day a portion of the ureter will be taken out in mistake for the appendix or torn out with it.

It is also to be remembered that in perityphlitis the superficial veins are more engorged on the right side of the body than on the left.

Perhaps my views in regard to the time of operation have been misunderstood. What I desired to say was that no case that is not improving should be permitted to go beyond the third day without surgical interference. I do not mean to say that all cases should be left so long. In some the operation will be required in the first few hours; in others on the first day, and in still others on the second day. The great majority of cases will recover from the present attack at least, upon purgation, topical applications, and regulation of diet.

Another danger of allowing septic processes to go on in the neighborhood of the appendix is the development of phlebitis in the branches of the mesenteric vein causing troubles in the liver. Pain in the liver is



often a sign of appendix disease. It has been held that many cases of abscess of the liver have originated in septic processes around the appendix infecting the veins. I saw Dr. Steinbach operate on a case in which the patient before operation showed a tinge of jaundice. The appendix ran upward nearly to the liver and was surrounded by a large abscess. Intense jaundice supervened after the operation, and the man died apparently from acute inflammatory degeneration of the liver. I believe that the liver trouble was aseptic complication from the appendix.

In regard to the use of calomel and podophyllin, I would say that I know very little about experimental therapeutics, but after giving the various purgatives a thorough trial I have found that minute doses of calomel and podophyllin frequently repeated give the best results in these cases. They move the bowels thoroughly and with rapidity. In the case reported from fifteen to twenty movements were secured in eight or ten hours. These small doses cannot be vomited as readily as a drachm of salts can be, nor do they produce emesis even shortly after etherization, when salines would not be tolerated by the stomach. After the bowels have been thus started and the stomach quieted as a consequence, salts will be retained, if indicated, and work with greater promptitude and efficiency.

DR. PRICE:—I rejoice that in America we have adopted some of Mr. Bryant's surgical wisdom in regard to hernia. "If you find a man hanging cut him down."

I will allude to three cases in which there were recurring attacks. In one, the man had had twelve to fourteen attacks. I saw him in the last in collapse on the eighth, tenth, or perhaps the twelfth day. In this case the argument offered by the family physician was the common one, that as the patient had recovered from so many attacks he would also recover from this. This is a dangerous argument and often a fatal one. I said that this man would be dead in three hours; he died in an hour and a half. In a recent case I saw the patient on Monday. Dr. Agnew saw him on the same day, and we both urged section. The physician and family decided to wait. On the following Friday Dr. Agnew was asked to operate and refused. Many of us are now taking high ground and refusing to operate at the eleventh hour. It is not fair to surgery to operate on dying patients. Dr. Agnew has recently operated in the twenty-fifth attack,

removing a huge appendix, and the boy recovered.

Deaths from appendicitis are very numerous; indeed, more so than a year ago. They were then called typhoid fever, but now our methods of diagnosis are more accurate.

Mr. Tait's recommendation of drainage has been referred to. That would be as bad surgery as to drain a huge pus-tube. The cheesy, disorganized appendage remains. No one would cut down on a sequestrum in bone disease and simply put in a drainage-tube.

I have the records of two cases of appendicitis, in one of which the opening was through the lungs and the other through the œsophagus. Dr. Hunter McGuire has reported a case in which the appendix was found floating in a puddle of pus. You will all remember the illustration in the *British Medical Journal* or the *Lancet* of a year ago of a case of hepatic abscess with a large opening through the loin. You could see the liver, the kidney, and the colon. The man lived twelve days and died of dysentery. I never see a case of neglected appendicitis without thinking of this case of neglected abscess of the liver. In most cases that we see the small intestines are enormously distended and the pelvis is filled with adherent knuckles of bowels. In these you often have obstruction. In many cases the use of a purgative is simply folly before the adherent knuckles of intestine have been released by operation.

I scarcely favor the long ligature method. In these cases I have inverted the stumps, and the transfixation has been made with the finest needles. If the appendix sloughs it goes inside.

The McBurney point is wholly ununiform and worthless.

#### A NEW MEDICAL SOCIETY.

#### THE AMERICAN MEDICAL TEMPERANCE SOCIETY.

During the first day of the meeting of the American Medical Association at Washington, last May, a "call" was posted in the various halls where the different "Sections" met, inviting all physicians favorable to the formation of a Temperance Medical Society on the basis of the British Medical Society. The call was signed by Dr. N. S. Davis, of Chicago—known to physicians everywhere as the "Father of the American Medical

Association." Punctually at 2 P. M. twenty persons had assembled.

Dr. Davis took the chair and proceeded to give us information in relation to the British Society which began with only ten persons and now numbers hundreds of the eminent physicians of England. The terms of membership are the payment of a small fee and entire abstinence from the use of intoxicating beverages.

There is no pledge required, it being believed that no physician worthy of the name would desire membership if he were not a total abstainer.

The liberty of members to prescribe alcohol is not forbidden, should they deem it necessary.

The names of those present were then enrolled, and to them were added a number more of persons who had written to Dr. Davis their wish to become members, but who could not be at the meeting. A meeting was appointed to be held the next morning at 9 o'clock. There were more persons present on that occasion, and the organization was perfected. Some appropriate papers were read and discussed, and Dr. Davis spoke earnestly on the importance of strict temperance by the members of our profession, and closed by declaring, that he did not regard *the use of alcohol essential to the treatment of any disease*. Strong testimony from a man so competent to observe and with an experience of more than fifty years of practice! Dr. Davis thus outlined the purpose and object of this Society: "The object of this association is to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease, and it aims at being a bond of union among medical abstainers scattered all over our country. It admits as members all regular medical practitioners who are practical abstainers from all alcoholic liquors as beverages. Members are not required to sign any pledge, but if such for any reason cease to become total abstainers, it is expected that they will withdraw from the Society."

The great object of the Society is to study and investigate the action of alcohol both as a beverage and medicine, and to promote the strictest temperance among physicians. The fact that this Society originated through the efforts of the noble man, who created our great National Medical Association, many years ago, and which has so greatly harmonized the profession, will at least protect it from being considered the outcome of fanaticism. It is to me very comforting,

and shows how greatly the profession has advanced in respect for temperance principles since 1853, when a president of our State Society, in the performance of his duty to the Society, was severely denounced for merely entreating the profession to forbear the then reckless use of alcohol as medicine.

Sixty-one physicians were enrolled as original members at the meeting in Washington, and the secretary informs me that there are more than a hundred now. The secretary writes: "The meeting of the Society held in July, in Staten Island, was quite a success—thirty-two medical papers were read on alcohol. Four or five were a defense of its use, and the rest a condemnation of it."

The officers of the Society are:—

N. S. Davis, M. D., President, Chicago, Illinois.

Vice-Presidents, I. N. Quimby, M. D., Jersey City, N. J.; J. B. Whiting, M. D., Janesville, Wis.; F. E. Yoakum, M. D., Shreveport, La.; J. Taft, M. D., Cincinnati, Ohio.

Secretary, T. D. Crothers, M. D., Hartford, Conn.

Treasurer, G. W. Webster, Chicago, Ills.

Physicians desirous to become members of the Society may do so by addressing the secretary, Dr. Crothers, Hartford, Conn.

HIRAM CORSON, M. D.,  
Plymouth Meeting P. O., Pa.

## SELECTED FORMULÆ.

### VOMITING OF PREGNANCY.

The following is recommended (*La Rassegna di Scienze Mediche*, No. 2, 1891) in the vomiting of pregnancy:

R Menthol.....gramme j (grs. xv.)  
Alcohol.....grammes xx (f3 v.)  
Simple syrup.....xxx (f3 j.)  
Sig. One teaspoonful every hour.

### ANTINERVINE.

The substance which has also been called salicyl-bromanilide is, according to Ritsert, a mixture of

R Ammonium bromide.....parts 25.  
Salicylic acid....." 25.  
Acetanilide....." 50.

### SCIATICA.

R Tinct. colchici.....m 3/4.  
Tinct. cimicifugæ.....m 3/4.  
Tinct. aconiti.....m 3/4.  
Tinct. belladonnæ.....m 3/4.  
M. Sig. One dose.

—Starr on Nervous Diseases.

### DEODORIZATION OF IODOFORM BY CREOLIN.

A patient, suffering from a bone-felon, applied for treatment to Dr. L. Vazci (*Rundschau*, May, 1891) who wrote for a salve consisting of iodoform, two parts; creolin, one part, vaselin, twenty-five parts.

On visiting the patient the next day, he was much surprised to find that the salve was of a different color, but, what was of much more importance, there was not the slightest odor of iodoform. Most of the deodorizers contain some one of the ethereal oils which have an irritating effect; whereas creolin does not do this, but is itself a good disinfectant.

### RHEUMATISM.

Dr. Staples recommends:

**R** Olei gaultheriæ.  
Olei olivæ, aa.....part equal.  
Sig. Apply locally to affected parts, afterwards keeping the member covered.

### ASCARIS LUMBRICOIDES.

The following is said to be a specific for ascaris lumbricoides:

**R** Santonine.....gr. x.  
Irisin.....gr. ij.  
Sacch. lactis.....gr. iv. M.  
Sig. One powder, every night at bedtime; this for children 3 to 4 years of age.

—*Med. Summary*, Sept., 1891.

### VEGETATIONS ON THE GENITALS.

Dr. Uriola states that the following mixture, applied with a camel's hair brush to vegetations of the genitalia, will cause a rapid disappearance of the growths:

**R** Acidi salicylici.....part 1.  
Acidi aceticæ.....parts 15.

—*National Druggist*, July 1, 1891.

### CYSTITIS.

Wyman and deLeval recommend the following formula in all cases of cystitis:

**R** Ext. pichi sîd.....f 3 j.  
Potassii nitratis.....f 3 j.  
Syr. simplicis.....f 3 ij.  
M. Sig. A teaspoonful every three hours.

—*The Satellite*.

### LINIMENT FOR GOUT.

In his small work on rheumatism and gout, Dr. F. Leroy Satterlee recommends the following local application in cases of gout:

**R** Ol. gaultheriæ.  
Ol. olivæ.  
Lin. saponis.  
Tr. aconite.  
Tr. opil, aa.....3ij.  
M. Ft. liniment. Sig. Apply freely and cover with cotton batting.

### RHACHITIS.

In the *Journal de Médecine de Paris* the following prescription is given for the treatment of rhachitis:

**R** Phosphorus.....gr. j.  
Absolute alcohol.....5 v.  
Spirits of peppermint.....gtt. xxx.  
Glycerin.....3 ij.

Six drops of this mixture may be given in water three times a day, and after the lapse of one week another drop may be added.

### INFANTILE BRONCHITIS.

**R** Vini ipecac.....M j.  
Tr. opii camphorat.....gtt. ij.  
Syr. scillæ.....gtt. v.  
Aq. menth. piperit, q.s. ad.....f 3 j.  
M. Sig. One dose to be taken every two hours.

—*Dixie Doctor*.

### CHOLAGOGUE POWDERS FOR HEPATIC COLIC.

In the *Revue Général de Clinique et de Thérapeutique* the following treatment for the relief of hepatic lithiasis is given, based upon the fact that Binet and others have found that the benzoate and salicylate of sodium act as cholagogues. The nux vomica in the prescription aids in regulating the bowels and in relieving anorexia and dyspepsia:

**R** Benzoate of sodium } of each.....gr. lxxv.  
Salicylate of sodium }  
Powdered nux vomica.....gr. vij. M.

This is to be divided into 20 powders, of which the patient should take 1, three times a day for two months.—*Med. News*.

### PERMANGANATE OF POTASSIUM IN DIPHTHERIA.

Er. Netetzky says that his twenty-two years' practice convinced him that the best treatment of faucial diphtheria consists in an energetic use of permanganate of potassium.

The drug should be administered in the shape of paintings and gargle. The following strong solution should be employed:

**R** Potassii permanganatis.....5 j.  
Aque destillatæ.....f 3 j. M.  
Sig. To paint the affected surface every three hours.

For gargling, which is to be repeated as often, a teaspoonful of the same solution should be mixed with a tumblerful of boiled water.

In those cases in which the child is unable to gargle, the following mixture should be given internally:

**R** Solutionis hydrogenis superoxydati, two per cent.....f 3 j.  
Glycerinæ.....f 3 ij.  
Sig. A teaspoonful every two hours.

—*Medical Record*.



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The Editor will be pleased to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

## LEADING ARTICLE.

### THE CONSTITUTIONAL DISTURBANCES FOLLOWING THE PASSAGE OF INSTRUMENTS INTO THE MALE URETHRA AND BLADDER.

That the passage of instruments into the male urethra and bladder is at times followed by more or less grave constitutional disturbances is a fact known to every physician, and one which has long been recognized. At no period in the history of medicine has a thorough understanding of the pathology of these affections been as important as it is to-day, when both the urethra and bladder are more frequently operated upon than ever before. It is also most desirable that the terms used to denote the different clinical conditions resulting from the use of instruments, should be clearly defined, so that, as far as possible, we may arrive at uniformity of expression in recording them. That there is need of this, a glance at the literature of the subject will fully demonstrate.

Many theories have been advanced to account for the causation of the various systematic disorders which are clinically observed, and those conditions have received different names from many writers upon the subject. The principal terms now in general use to denote these affections are catheter chill, urethral fever, catheter fever, and urinary fever. Dr. Paul Thorndike, of Boston, has contributed at the last meeting of the Massachusetts Medical Society, a very excellent paper, in which he has grouped and definitely classified in a practical manner, the various diseased states occurring after instrumentation upon the urethra and bladder. His division of the cases seems so admirably capable of containing all the different conditions met with, that we will quote his synopsis of the four classes. This is as follows:

I. The cases of "urethral shock" brought about by the simple passage of an instrument into the urethra. Very common, and, as a rule, of very little importance, but occasion-

ally terminating in speedy death. The fatal form is rare, and is usually associated with renal disease of some sort.

II. The cases of "acute urinary fever" caused, probably, by absorption of poisonous products from the urine. This acute attack at times occurring without any known cause, such as further instrumentation.

III. The cases of "chronic urinary fever," coming on after catheterization, in cases where obstructive disease had pre-existed for a long time.

IV. The cases of "septic infection" from an unclean instrument. This may be merely a mild cystitis; may extend upward and cause septic trouble in the kidneys, or may manifest itself as a true general septicæmia or pyæmia.

An examination of the literature of this subject convinces us that the above classification is plain, practical, and wide enough to include all cases. It is also founded upon the most recent clinical and experimental knowledge, so that as a good working classification it is doubly commendable.

The first class of cases includes all those due to shock. These vary from the slightest "catheter chill" to a fatal degree of shock, which is happily of rare occurrence. The most common form of "catheter chill" occurs directly after the use of instruments and soon passes away without any bad effects.

The second class includes all cases of acute fever, commonly called "catheter fever." Usually this occurs within a few hours after the passage of the instrument, and rarely persists longer than 24 hours. The etiology of "catheter fever" is still a matter of discussion. Some writers regard it as due to shock, as all admit the first class of cases are; others state that malaria is the causative factor; while others believe that it is due to uræmia. The fact that the attack does not commence until some hours after the passage of the instrument is against the "shock" theory, for we should naturally expect it to begin immediately after instrumentation, and also to be in proportion to the severity of the surgical procedure, but clinical experience teaches us that such is

not the case. Again, if catheter fever is due to shock, we should expect, as Dr. Thorndike remarks, that prophylactic measures would be powerless to prevent its occurrence after urethral operations, yet from the testimony of able surgeons we know that a large proportion of urethral operations are followed by no febrile disturbances, especially at this time when perfect drainage is secured, and the urine prevented access to the wound.

Mr. Reginald Harrison, who is entitled to speak with some authority upon this subject, believes that this acute febrile attack under discussion is due to the septic absorption, and he has found in his experience that it is more likely to occur when the wound is made in the floor, than when it is situated in the roof of the urethra. He says: "A dependent position of the incision is more likely to be associated with the fever than one not so situated." If it be admitted that septic infection is the cause of ordinary "catheter fever," the question arises: which constituent of the urine is responsible for the symptoms? To determine this, Dr. Bouchard, of Paris, has recently made very interesting studies, with the result that he attributes the symptoms to the absorption of certain alkaloids formed in the intestines by putrefactive organisms, and normally excreted in part by the kidneys. These researches still lack confirmation, and it may truly be said that they have only opened a very wide field for the further study of the physiological chemistry involved. The weight of evidence proves that "catheter fever" is due to septic substances, but their precise nature must still be considered as largely hypothetical.

The third class of cases, or those of chronic fever, embraces all the cases in which fever arises after catheterization for the relief of urinary incontinence due to distension and weakness of the bladder, usually caused primarily by an old stricture or a chronic prostatic hypertrophy. The "residual urine" has slowly increased in amount, and chronic distension with consequent atony of the walls of the bladder finally occur, after which the cases come under observation. The onset, course and termination of this

type of fever are thus described by Dr. Thorndike: "The patient is instructed as to his condition and started regularly on his catheter-life. In a few days he begins to feel poorly, has chilly feelings, but not necessarily a distinct rigor. He becomes feverish, but his fever is slight and has distinct intermissions. He loses appetite, suffers from thirst, and feels wretchedly all the time. The tongue becomes dry and brown. Examination generally shows a cystitis, more or less marked, even if this condition did not exist before the beginning of regular catheterization. This condition may exist for weeks, and yet the patient recover with proper care, or it may end fatally, in which case there will be found almost invariably advanced disease of ureter and kidney."

The cause of this type of fever has been explained, in those cases in which there is associated disease of the kidneys, by the theory that the withdrawal of the urine relieves the pressure long exerted by it upon the kidneys through the dilated ureters and calices, thus inducing active congestion of the kidneys, which, owing to the want of normal elasticity caused by the chronic fibroid changes which the organs have undergone, cannot be controlled, and an acute pyelonephritis is the result. In a certain proportion of cases however, post-mortem examination reveals no chronic lesion of the kidneys, and for such cases no adequate explanation is forthcoming.

The fourth class comprises all cases of direct septic infection from the passage of unclean instruments. The cases differ widely; thus, we may have a simple cystitis, or it may extend up the ureters and cause septic pyelonephritis and death from surgical kidney; or direct infection may occur through a wound made by the unclean instrument, and we may have a true septicæmia or even pyæmia with general formation of pus in the tissues and in the serous cavities of the body.

The fact that such serious affections do occasionally follow the use of instruments upon the urethra and bladder, certainly is the strongest possible plea for the most scrupu-

lous care in the proper cleaning of apparatus, and in all surgical procedures upon this part of the body.

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## CORRESPONDENCE.

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### PHENACETINE AND SULFONAL.

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#### ED. MEDICAL AND SURGICAL REPORTER:

I have thought it desirable to put on record my experience with these two substances. I find phenacetine to be a much safer antipyretic than antipyrine or antifebrin as it does not have their depressing or exciting effect on the heart. I could not treat a case of epidemic influenza without phenacetine. I believe it better to use small and frequent doses. It does not give rise to gastric disturbance. It is prompt in action and decided in its effects as a therapeutic agent. It has no accumulative tendencies and is much safer for children and old people than opiates. Another advantage is that it does not lock up the secretions. In the muscular pains of la grippe it is far preferable to opium. In rheumatism I combine it with salol.

I have also been using sulfonal, the most valuable of hypnotics, where opiates, on account of stimulating and exciting effects on the nervous system are contra-indicated. In fevers where there is a tendency (when opiates are used) of over exciting the brain I have found sulfonal to induce calm and refreshing sleep with no tendency to delirium. I have a case of intermittent fever in which I rely solely upon sulfonal to induce sleep. In brain fever it would prove of incalculable benefit. In *Mania a Potu* it would prove the "*sine qua non*."

In my experience with sulfonal and phenacetine I find that small doses (3 to 5 grains) repeated every two or three hours, or even every hour, are better than larger ones.

A. O. Stimson, M. D., C. M.,  
Thompson, Pa.

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A new remedy for whooping-cough is ouabaine in doses of about gr.  $\frac{1}{100}$ . It has been tried with success by Dr. Gemmell, of Glasgow, and lately by Dr. I. L. Porteous, of Yonkers, N. Y.—*New York Med. Jour.*



## BOOK REVIEWS.

**ESSENTIALS OF BACTERIOLOGY: BEING A CONCISE AND SYSTEMATIC INTRODUCTION TO THE STUDY OF MICRO-ORGANISMS, FOR THE USE OF STUDENTS AND PRACTITIONERS.** By M. V. BALL, M. D., Late Resident Physician in the German Hospital, Philadelphia; Assistant in Microscopy, Niagara University, Buffalo, New York, etc. With seventy-six illustrations, some in colors. Philadelphia: W. B. Saunders; 16 mo, 159 pp. Price \$1.00.

The subject of bacteriology has, of recent years, grown to such enormous proportions and assumed so important a position in clinical medicine, pathology and hygiene that it is safe to say that during this period of its active growth it has undergone more rapid development than any other branch of medical science. Indeed, so rapid has been its advance that the text-book of to-day shows signs of age on the morrow.

There has existed an unquestionable need for a small work embodying the salient points of bacteriology, and specially adapted for laboratory use. It is just such a book that Dr. Ball has prepared. He introduces the student by referring to the classification, structure and reproduction of bacteria. Then are considered: their origin, growth, life and properties; methods of examination, staining, culture, etc.; non-pathogenic bacteria; pathogenic bacteria; bacteria pathogenic for animals, but not for man; finally, there is an appendix on yeast, odiums, moulds, actinomycetes or ray fungus, and the examination of air, water and soil.

The compend is thoroughly practical, very concise, clear, well-written and sufficiently illustrated. On the whole, it is the best book of the kind in the English language.

**ARTIFICIAL ANÆSTHESIA AND ANÆSTHETICS.** By DE FOREST WILLARD, R. M., M. D., PH. D., Clinical Professor of Orthopedic Surgery in the University of Pennsylvania; Surgeon to the Presbyterian Hospital, Etc., and LEWIS H. ADLER, JR., M. D., Instructor in Rectal Diseases, Philadelphia Polyclinic and College for Graduates in Medicine. Detroit: Geo. S. Davis; 144 pp. Price 25 cents, cloth 50 cents.

The subject of which this brochure treats is one of such universal interest and importance to the profession that any new publication has a just claim to immediate attention. While this work is unpretentious in size the authors have so carefully selected and condensed the material at their disposal that they have really embodied all of the impor-

tant practical points in connection with anæsthesia.

They consider, *seriatim*, the history of anæsthetics, the preparation of the patient, general anæsthetics, local anæsthetics, special modes of producing anæsthesia, anæsthetics in obstetrical practice, and the medico-legal relations of artificial anæsthesia.

The book has been very carefully prepared, and it cannot be too highly recommended to the student, nurse, dentist and physician.

## PERISCOPE.

## THERAPEUTICS.

## USE OF COLLODION IN RELAXATION OF THE MEMBRANA TYMPANI.

Dr. Lannois, of Lyons, France, calls attention (*Annales des Maladies de l'Oreille*, etc., vol. xvii., No. 1) to the above named treatment, first suggested, he says, by McKeown, of Belfast, in 1879. Employment of collodion has no inconveniences or dangers, and the author thinks that it not only holds the relaxed membrana in proper position, by its contractive and extracting power, but also that it possesses a truly curative effect, as the patients continue to hear better after the collodion film is removed from the ear.

Two cases are then told in detail illustrative of the good results of this treatment in relaxed conditions of the membrana tympani. McKeown recommended to paint the collodion on the membrana, but Lannois prefers to drop into the ear a few drops of the collodion after the membrana tympani has been pushed into the normal position by inflation of the tympanic cavity.

## THE TREATMENT OF LUPUS BY LYSOL.

Lysol is a saponified phenol derived from tar oils, or, rather, from cresols by the action of nascent soap; it is a liquid containing the higher homologues of carbolic acid. Lysol differs from creoline, to which it is related, by its most perfect solubility in all proportions of water. Comparative bacteriological tests have proved it to possess higher antimycotic powers than carbolic acid or creoline, while it is less variable in constitution than the latter, and less poisonous than either.

The liquid is well worthy of extended use

by dermatologists and others called upon to treat lupus, for a short period of treatment by it suffices to produce a marked improvement in the appearance of the disease, and the results are so pronounced as to suggest a permanency, the reality of which only the lapse of time can, of course, determine. The surgeon, guided by a clear conception of the necessity for assiduous or watchful perseverance in the treatment of this disease, will perceive that this substance gives promise of ameliorative, if not curative power.

My plan is to apply, or direct the patient to apply, the lysol freely to the surface of the lupus patch by means of cotton twisted around a probe or wooden match, and to allow it to dry on. As in the employment of any other remedy intended to attack lupus nodules, it is first necessary to remove crusts and *débris* by the usual means. If this has been done, and it is found that the lupus is ulcerated, the lysol may be equally applied to the ulcerated and sound surface of the patch; it is not essential to first heal the ulcers, although if this be done by means of a simple ointment, the pain of the application is somewhat less than if made to the ulcerated surface.

Having applied the remedy myself, to show the patient how to proceed, I usually direct him to repeat the process once a day, or every other day, or less frequently if its use gives rise to much cracking of the epidermis or other inconvenience. Too frequent application is not desirable, besides being unnecessarily painful; for instance, if it be used at intervals of twelve hours, the second application is much more painful than the first. Its too frequent use causes either the formation of an impermeable and undesirable pellicle, as the result of its caustic action; or gives rise to superficial cracks in the epidermis, especially if the lupus is situated on a part of the skin naturally subject to tension. The immediate result of its application is to redden the parts, and sometimes to cause a slight oedema. This redness, with the overlying undried film of the drug, gives the part a peculiar, translucent, moist, glistening, erythematous appearance, which gradually subsides after the drying of the lysol. After a few days the scar is pliable, smooth, and of a good appearance from a cosmetic point of view, approximating the tint of healthy skin. The resulting scar seems even superior to that obtained after multiple scarifications.

The pain of the application is acute for half or three-quarters of an hour, quite disappearing in from two to three hours. This

pain is less than that caused by the use of the multiple scarifier, and is not seriously objected to by patients to whose courage the prospect of the deforming sequelæ of lupus acts as a tonic.

In lupus of the nose or lips, since it is not easy to surmise how deep is the invasion, the disease should be attacked from the skin and mucous surfaces. The pain of application to the skin is much less than that to the nasal mucous membrane, and here the prior use of strong cocaine pigments has not appeared to reduce the pain. Dr. Unna has used lysol in the form of a plaster mull, and appears to have been favorably impressed with it. It is classed by him among substances which do not produce pain, and he asserts that the use of the mull is nearly painless.—DR. LESLIE PHILLIPS, in *Brit. Med. Jour.*

#### THE TREATMENT OF TUBERCULOSIS BY MEANS OF SUBCUTANEOUS INJECTIONS OF EUCALYPTOL, GUAIACOL, AND IODOFORM.

Pignol (*Compt. rend. hebdom. des Séances de la Soc. de Biol.*, 1891, No. 10) reports that for three years he has applied eucalyptol, alone or in combination with iodoform and creasote or guaiacol; guaiacol and iodoform, without eucalyptol; and creasol and guaiacol, subcutaneously, in the treatment of tuberculosis, with most satisfactory results. He uses as a menstruum sterilized liquid vaselin, olive oil, or oil of sweet almonds—preferably one of the latter two—containing twenty per cent. of the medicaments in varying proportions, of which at least from three to ten cubic centimetres are injected daily. The injections are made with antiseptic precautions into the retrochanteric fold. The best results were obtained from a combination of guaiacol and iodoform.

Picot (*Bull. de l'Acad. de Méd.*, 1891, No. 9) has reported the results of treatment in twenty-five cases of pulmonary tuberculosis and eight of pleurisy by means of subcutaneous injections of iodoform and guaiacol, dissolved in sterilized olive oil and vaselin, each cubic centimetre of the solution containing one centigramme of iodoform and five of guaiacol. The injections, each of three cubic centimetres, were made into the supra-spinous fossa daily, and were unattended with unpleasant local results. As an evidence of the absorption of the medicaments, the presence of iodoform could be demonstrated in the urine, guaiacol not be-

ing eliminated by the kidneys. As a rule, the injections occasioned no general reaction, but in certain cases, especially in those with fever, profuse perspiration followed, succeeded in turn by a sense of comfort and a lowering of temperature. In exceptional instances abdominal pain and diarrhoea developed in the course of treatment, but subsided on suspending the injections. In three cases of advanced phthisis, in which death took place, the changes found in the lungs were indicative of a reparative tendency. The tubercles presented an appearance of beginning fatty degeneration; the cavities were clean and dry. In one case the ulcers in the intestine showed a disposition to cicatrization. Neither in the lungs nor elsewhere was there any evidence of a fresh eruption of tubercles as a result of the treatment. In the remaining cases of phthisis the cough diminished, the sputum became less, and the number of bacilli in the sputum smaller, the body weight increased, the night sweats disappeared, the general condition improved, and the physical signs receded. In the cases of pleurisy the results were equally good. Effusion speedily disappeared, and recovery was rapid.

#### PARALYSIS AFTER SUBCUTANEOUS INJECTION OF ETHER.

Dr. Eberhart, of Cologne, has collected (*Centralbl. f. Gynäk.*, March 21st, 1891) cases in which the subcutaneous injection of ether caused paralysis of the muscles supplied by nerves with which the injected fluid had come in contact. In a case of Remak's in which the patient was comatose from carbonic oxide poisoning, ether was injected under the integuments of the extensor aspect of each forearm. Paralysis of the extensors of the fingers, of the index and little fingers and of the metacarpal bone of the thumb, followed the injection. In another case, the paralysis was similarly distributed, excepting that the extensor indicis was spared; the condition did not pass away for four months. Arnozan had already noted that the posterior interosseous nerve, below the point where it perforates the supinator brevis, is especially exposed to injury from ether injections. Charpentier and Barbier have described neuritis degenerativa of the great sciatic nerve after ether injection. In Mendel's cases paralysis of the extensors of the ring and little fingers, with diminished cutaneous sensibility, followed hypodermic injection on the extensor side of the right fore-

arm; recovery ensued in three weeks. In a case of Neumann's, ether was administered in the manner to a phthisical patient, and in both forearms. On the third day there was swelling around the punctures, pain on movement of the hands, and impaired movement of the middle finger. The latter symptom lasted for a long period. In Dr. Eberhart's own case, a plastic operation was performed on a woman for prolapsus uteri. The careful rawing of surfaces on the vaginal wall took a long while. The patient seemed collapsed at the end of the operation, and ether was injected under the skin of the right forearm, a hand's breadth below the olecranon, and at a second point, midway between the elbow and wrist. On the second day, partial paralysis of the extensors of the middle ring, and little fingers was noted; they could be extended, but the extension could not be maintained. There was no pain, and no lesion around the punctures. Faradization did little good till massage was added. It was six weeks before the extensors regained their complete power. The patient afterwards suffered from peculiar sensations in the forearm whenever the weather was changeable. It is not likely that these neuroses are due to direct wounding of the posterior interosseous nerve by the point of the syringe. The nerve is probably inflamed by direct contact with the ether.—*Brit. Med. Jour.*

#### ALKALIES IN UNIVERSAL PRURITUS.

C. Lange, (*Hospitals Tidende*, No. 21, 1891.) calls attention to the fact that most text-books present one with a most cheerless prospect in the section on universal pruritus. Arsenic internally and carbolic-acid compresses locally are the means most frequently relied upon. The writer has found a very prompt action in sodium bicarbonate combined with lithium carbonate in four cases of universal pruritus, namely in two ladies, of which two were over fifty, and an old gentleman, in which cases the usual remedies had failed. The pruritus, in one case, in a fifty-one year old lady, who was formerly well, and by no means hysterical, which had localized itself in the genital region, was so severe that her friends feared that she would either lose her mind or throw herself out of the window. She became emaciated and hollow-eyed, and presented pruritus of the entire body. Only hot compresses, as hot as could be borne, with large doses of chloral, would produce sleep. The administration of the alkalies mentioned, together with carbolic-acid compresses, improved her condi-



tion in a few days; in six weeks she was markedly better, but still required hypnotics and a compress at night. In three months no more hypnotics were necessary. In the urine of two other patients an abundant precipitate of uric acid and urates was found.

#### THERAPIE OF HUCKLEBERRY.

Prof. Winternitz recommends a decoction of huckleberries (*saccinum myrtillus*) in the different forms of diarrhoea. He covers the dried berries with cold water and cooks them for two hours, stirring them up quite frequently. After the mass is syrupy-like, he separates it from the remaining berries and presses the juice from them out. He then cools the juice, after which it is ready for use. One to two teacupful of this juice per diem is the dose.

Winternitz claims that this preparation will act beneficially in the most pernicious cases of diarrhoea.

He uses this decoction in gonorrhoea as an injection, and claims to be very successful with such treatment.—*Blätter fuer Klin. Hydrotherapie.*

#### MEDICINE.

##### ANALYSIS OF TWO HUNDRED AND SIXTY-TWO CASES OF CHOREA.

Goodall (*Guy's Hosp. Reports*) has analyzed the above number of cases of chorea occurring in the hospital during eleven consecutive years. Seventy-four of this number were males and one hundred and eighty-eight females. The youngest case was a female infant of one year; the oldest case a man of thirty-six years. There were one hundred and four cases that had recurrence of the disease. The smallest number of attacks occurred during the summer months. Hemichorea was present in sixty cases. In one hundred and fifteen cases the heart was normal, twenty-one of which number had had rheumatic fever. In one hundred and thirty-five cases there was some cardiac or vascular change. As no mention is made of the presence or absence of hypertrophy or dilatation, it is impossible to make out what per cent. of these the author regards as being chronically diseased.

There were eleven fatal cases, in which death was due to changes in the endocardium, emboli probably being formed in many cases. Seventy-one cases had had rheumatic fever; in only sixteen cases did

choreic manifestations precede the fever.

The family history showed chorea in twenty-eight cases, mother, brother or sister having been affected. There was no history recorded of a father having had the disease. As causes are mentioned rheumatic fever, fright (forty-five cases), irritation, pregnancy, injury.

#### PERITYPHLITIS.

Sonnenburg (*Berliner klinische Wochenschrift*, No. 2, 1891) advises operation if the presence of pus is recognized. In the sero-fibrinous exudations around the cæcum an operation is excluded because they are absorbed. The larger the exudate at the beginning, the less likelihood is there of a purulent collection around the appendix, and the greater the probability of an infiltration around the cæcum. The small exudations which are, perhaps, circumscribed at the beginning, and situated usually at the classical space above Poupart's ligament, originate almost always from the appendix. Moreover, the greater the violence of the initial symptoms, the more apt is the trouble to be an exudation or phlegmonous process around the appendix. In most of the author's cases, violent pains in the umbilical region developed suddenly at night or after a movement, and was followed by vomiting with diarrhoea or constipation. In a few hours there was pain in the ileo-cæcal region, and indican in the urine. In perforation there is apt to be a small, hard, resistant space above Poupart's ligament, dull on percussion and sensitive to pressure. Even a slight rise of temperature, as 100.5°, if pathognomonic of pus. In cases where a small, indistinct fluctuation exists, an incision should be made down to the peritoneum and the wound tamponed, puncture of the abscess being made later. The incision should be long, curved and similar to that employed in ligation of the common iliac artery, and to avoid subsequent hernia it should be made as close to the crest of the ilium as possible. After several days, or as soon as adhesions have formed, the abscess is to be opened and drained. The wound is dressed daily, but not irrigated, and heals in four or five weeks. Of twelve of the author's cases in which immediate incision was done, five died of sepsis which was present before the operation. The following conclusions are submitted: (1) Endeavor to diagnose the simple from the purulent forms of perityphlitis. The sero-fibrinous cases do not require operation; but in patients suffering from tuber-

culosis or intestinal disease these may become purulent and then require a simple operation. (2) Purulent exudations originating in the vermiform appendix cannot be absorbed. (3) The more superficial the exudation, the earlier is operation indicated, that is, within the first few days of the beginning of symptoms. (4) If the exudation is small, the operation should be done in two sittings, as early as possible after the beginning of the disease.—*Univ. Med. Mag.*

#### THE NATURE AND TREATMENT OF STAMMERING.

Emil Behnke (*Jour. Laryngology and Rhinology*, July, 1891). The author declares that the terms stammer and stutter should indicate the same condition, rejecting a former distinction that stammer should refer to that form of obstruction in which there is inability to pronounce vowels, and stutter to that form of impediment in which the consonants are at fault. The causes of these disturbances are attributable to the nervous centres controlling the mechanism of respiration, phonation and articulation.

Children afflicted with stammering do not, as a rule, outgrow the habit; ridicule or severity will increase the difficulty.

Conditions needing surgical or medical interference, such as spinal curvature, post-nasal adenoids, decayed teeth, intestinal worms and phimosis, may prevent cure of stammering until their removal.

Cases of stammerers are divided into two classes—those in which fault lies in management of respiratory apparatus, and those in which it does not. In the former the prognosis is more hopeful. To test patient, he is placed flat on his back upon a couch, and is drilled in methodized and graduated series of sounds and inspiration, produced by diaphragm and muscles of abdominal walls, the hand of the trainer upon the epigastrium accentuating these movements.

If after such practice the patient shows improvement, a favorable result may be expected from treatment. In those cases in which obstruction does not depend upon imperfect respiration, Behnke attributes much of the trouble to "an involuntary exaggeration of all the stops and checks taking place in the vocal apparatus from glottis to lips, and he must therefore be trained to make these closures as shortly and lightly as possible." Thus a short aspirate may be inserted after a consonant; as G-h-eorge instead of George,

or, as patient would say, G-g-g-eorge; and p-h-a, instead of pa.

Stammerers sing and whisper without difficulty, because in singing there is almost continued tone, and in whispering there is absence of tone. It is advised "to dwell on vowels at expense of consonants—and if vowel difficult to sound, it should be preceded by a short inspiration. Another beneficial exercise is to speak slowly, with teeth overlapping and pressed tightly together.

Result of treatment influenced by severity of case, intelligence of patient, also existing morbid conditions, especially those due to chorea or other nervous disturbances.

#### CHILBLAIN OF THE LIP.

Taenzer, in the *Monat. f. prakt. Derm.* gives the case of a patient of 33 years, who has suffered since he was 12 years old from a complaint common enough, but interesting to dermatologists from its location. It is called by the author "Lippenfrost," or, in English, chilblain of the lip.

According to the patient the trouble made itself manifest during the rigorous winter of 1870-71, by a sensation of smarting in the lower lip, with tumefaction and a reddish-blue coloration. In the beginning of April, 1871, the trouble disappeared spontaneously after having resisted all medical treatment. In October the affection reappeared exactly the same as at first, except that it was more painful owing to the presence of deep fissure. Desquamation was present, which was renewed daily for many days. During the following March all the symptoms disappeared as before, having resisted all medical treatment, only to reappear during October, and this condition of things continued regularly—the complaint always appearing in October and always disappearing when the warm weather began. Pruritis, always present, was increased on touch. The fissure, closed during the night, opened in the morning when the patient ate or talked, and gave rise to considerable pain with slight hæmorrhage. There was never any ulceration with resulting cicatrice, and when the complaint disappeared in the summer it left no trace, either objective or subjective. The upper lip was never affected.

Toward the end of October the complaint begins by a desquamation which lasts from six to eight days, and is followed by a sensation of burning and itching in the middle third of the interior lip. The color is from a bright red, or bluish red to a brownish red; the lip is tumefied at this point. The

exfoliation is completed in one day and the lip has, in appearance, a normal aspect, but it is very sensitive. Then the process begins again and all the phases are repeated, the complete cycle requiring from six to eight days. This is kept up until the warm season sets in, when it disappears spontaneously.

No treatment gave durable results except that the pain and itching could be relieved by hastening the cicatrization of the fissure by means of gutta-percha with lead plaster and balsam of Peru.—*Annales de Derm. et de Syph.*

### SURGERY.

#### NITRITE OF AMYL IN CHLOROFORM ANÆSTHESIA.

Two recent deaths from chloroform administered for anæsthetic purposes direct attention anew to the various methods of resuscitation when dangerous symptoms appear. Of these methods none seems more promising than that in which nitrite of amyl is used. Dr. F. A. Burrall, of New York, believes that there is an essential antagonism between this drug and chloroform, and in a letter to the *Medical Record* refers to ten instances in which life was doubtless saved by the amyl. He sums up his views in these words: "In deciding upon remedial measures we must depend on both the observations of scientists and the teachings of clinical experience. With such light thrown upon the action of chloroform, let us suppose that a patient who is inhaling chloroform suddenly develops dangerous symptoms. Of such symptoms a tendency to fatal syncope is the most frequent. What conditions are present under such circumstances, and what shall be done to avert a fatal issue? We may hold that the cerebral vessels are contracted, and the central nervous system is losing the blood supply on which its activity depends. Circulation and respiration are faltering and death may occur suddenly at any moment. It is not a time for the application of any one method or remedy, but all the usual aids, as well as the reserves, of science should be immediately employed. The first indications are to revive circulation and respiration, since what arouses one seems to awaken the other. I think that, as nearly simultaneously as possible, the head should be lowered, the neck extended, nitrite of amyl given hypodermically or by inhalation, and artificial respiration practiced by the Sylvester method,

since this method is the most convenient. It should not be forgotten that pressure on the abdominal aorta increases the blood-pressure in the carotid. If asphyxia be present, it would seem that the neck should be extended and the head raised higher than the feet."—*Brooklyn Med. Jour.*

#### RESECTION OF THE THORACIC WALL FOR OSTEOCHONDROMA.

Professor Ivan K. Zarubin, of Kharkov, relates (*Transactions of the Kharkov University Society for the advancement of the Experimental Sciences*, 1891, vol i, p. 1. with 3 figs.) the case of a well-made but rather thin and anæmic, young Cossack, who sought his advice on account of a steadily growing and occasionally painful tumor of seven years' standing. It measured 21 centimetres horizontally and 19 vertically, and occupied the right side of the chest between the nipple line and the postaxillary line, from the sixth to the ninth rib. The new growth was hard, nodulated, immovable, and non-adherent to the skin. The integuments over it were thinned but otherwise normal, and the nearest lymphatic glands apparently unaffected. An osteochondroma of the thoracic wall was diagnosed. The huge mass was removed together with the involved portions of the seventh, eighth, and ninth ribs. The gap left in the chest measured 17 centimetres in a horizontal and 16 in a vertical direction. On opening the thoracic cavity the lung collapsed, but only partially, owing to pleural adhesions around the periphery of the new growth. None of the serious respiratory or cardiac disturbances usually observed in similar cases occurred, and the hæmorrhage was only trifling. The cavity was gently cleaned with gauze, soaked in a 1 per cent. boracic acid solution, after which a long drainage tube was inserted, and the skin wound (which was crucial in shape) was closed with silk sutures. The tumor, which was much larger than an adult man's head, weighed 6 pounds and 6½ ounces; its point of origin was the seventh rib. Under the microscope it was found to consist of new osseous tissue in its central part, and of hyaline cartilage in the peripheral part. For the first two days the patient was much collapsed and cyanosed, and suffered from agonizing cough and obstinate vomiting. Subsequently his general condition slowly improved. A good deal of pus continued to escape from the tube for about seven or eight weeks. On the sixty-first day after the



operation the tube was removed; the wound was soundly healed throughout. On the hundredth day the man was discharged quite well, having been supplied with an appropriate pad to protect an extensive and deep depression, which remained at the site of the resection. According to the author, similar cases of resection of the thoracic wall for new growths have been reported by Billroth, Fischer, Leisrink, Maast, Richerand, Sédillot, Vasilieff, Volkmann, Waltmann, and Witrel. Of the number 6 recovered, while 4 died.—*Brit. Med. Jour.*

#### INGUINAL COLOTOMY.

In the *Centralblatt für Chirurgie*, No. 30, 1891, Dr. Landow, of Göttingen, describes an abnormal condition of the sigmoid flexure, which is regarded as one of practical interest, as the possibility of its occurrence in any case of inguinal colotomy would contraindicate the practice advocated by Madelung of stitching up the lower opening after complete division of the gut, and allowing the lower and detached segment to fall into the pelvis. In two cases of inguinal colotomy recently observed in the Göttingen clinic, where the usual practice is to divide the gut and to stitch the two open ends to the external wound, it was noticed that the discharge of faecal matter always took place from the lower and not from the upper opening, although at the time of the operation the lower portion of the gut was traced downwards towards the bladder and the upper portion in the reverse direction. In one of these cases, which terminated fatally, it was found at the necropsy that the sigmoid flexure, which was very long and freely movable, passed upwards and outwards as far as the splenic flexure of the caecum and then curved downwards and towards the middle line, reaching the rectum after a long and tortuous course. The division of the gut having been made in the ascending portion, what was supposed to have been the distal opening was that nearest the caecum, whilst the supposed upper opening corresponded with the divided end of the inferior segment of the elongated and contorted sigmoid flexure.—*Brit. Med. Jour.*

#### THE ABORTIVE TREATMENT OF BUBOES.

Welander (*Archiv für Dermatologie und Syphilis*, 1891) endeavored to eliminate a specific bacteria from chancroidal pus, but failed. The staphylococci and other cocci found were readily killed with mercurial

lotions. Believing that buboes were caused by the transference of the staphylococci and streptococci, by means of the lymph channels to the glands from the chancroid, he endeavored to find a mercurial preparation which, when injected in concentrated form, would not cause intense pain or marked irritation. The material here used was benzoate of mercury, in one per cent. solution, with one-half per cent. of sodium chloride added. One or two injections of a half-gramme of this liquid were made into the gland. The skin was previously cleansed, also the syringe. A compress of sublimate solution was bound over the gland. Redness of the overlying skin was treated by penciling with ichthyol solution, 1:2-3. The details of thirty-two cases are given. In twenty-seven of these fluctuation was either absent or doubtful. In eighteen hospital cases healing occurred without discharge of pus; in two some pus oozed out through the injection puncture. These cases were kept at rest. In nine private cases healing occurred without discharge, and three discharged pus. In eight cases, in which fluctuation was marked, all sooner or later discharged through the injection opening, none absorbed. Most of them pursued a relatively favorable course, and in only two cases was incision necessary. There are sixteen cases still under treatment. In summing up, seventy-three per cent. of the cases gave favorable results. It is to be hoped that a mercurial preparation will be found that causes less pain and infiltration than the benzoate of mercury; but as yet we know of none. Whether the theoretical grounds on which this treatment was founded are accepted or not, it cannot be denied that by this means buboes have been healed without the occurrence of those unsightly and lifelong-lasting scars, as has heretofore been the case.—*Univ. Med. Mag.*

#### INFECTION AND TUMOR FORMATION.

Schleich (*Deutsche Med. Woch.*) remarks that infection of the organism never arises from dispersion of aggregations of leucocytes. On the contrary, every tumor is a tissue of new formation, which possesses an analogy to the development of the fecundated egg. Has the vital energy inherent in the cells from the first physiological impregnation been dissipated, so will the cells lose their resistance, and react moreover to all impressions in a manner quite different from usual. Such a weakened cell becomes a pathological "sperma," and impregnates another cell. Both the impregnating and impregnated

cells are cells of the tissue from which the tumor itself develops. A cell or pathological "sperma" fructifies; another cell comparable to the ovulum is fructified, and thus begins the tumor, since, inside the organism, a tissue cell which has become infectious (sperma) infects (impregnates) a second cell. Seich regards tumor formation as a kind of endogenous infection. Oestrich remarks, that while this theory has never been disproved, there has certainly never been the slightest demonstration of its truth.

#### REMOVAL OF A STONE FROM THE BLADDER BY VAGINAL CYSTOTOMY.

In the *Pittsburgh Medical Review*, 1891, Reamy, of Cincinnati, records a remarkable case, in which, after the removal of a stone weighing 365 grains, *per vaginam*, it was necessary to perform four operations to close the resulting vesico-vaginal fistula, which was half an inch in length. The stone would have been removed by the supra-pubic operation if the operator had realized its size. The urethra was dilated to the size of the little finger; no paralysis followed.

Owing to smallness of the vagina, the child being but six years old, together with the fact that the child was quite fat, made the operation for closure most difficult; and at the fourth operation the parts were much altered, considerable sloughing had occurred, and incrustation with urine salts; the edges of the wound were everted, ragged and spongy.

The left ureter was seen to be discharging urine from the wall of the fistula. With much difficulty the ureter was dissected up, the mucous membrane of the bladder cut away sufficiently to uncover it; the free end of the ureter, liberated by the dissection referred to, was not cut off, but turned into the bladder. Seven No. 30 silver wire sutures were introduced into the fistula and allowed to remain two weeks; upon removal union was perfect. Though Parvin, Campbell, and others have turned an exposed ureter into the bladder, this is probably the first case in which this manipulation has been successful in a subject so young.

#### GYNÆCOLOGY.

##### CASE OF ACQUIRED ATRESIA HYMENALIS.

In the *Australasian Medical Gazette* for June, Henry Forbes, M. B. et Ch. M. Aberd., relates the following history: E. S.,

thirty years old, domestic servant, single, was admitted, on the 2d of January, 1891, into the Charters Towers Hospital, complaining of dysuria and a swelling of the abdomen. Two days before, she had seen Dr. Browne, who sent her here.

She said she had enjoyed very good health at home, but since her arrival in Queensland she had suffered more or less from debility, though not enough to interfere with her work. She had been an in-patient at the Towers Hospital in June, 1890, when I attended her for a specific sore throat and a papular rash. Some time before this she had had a vaginal discharge following coitus, and afterward a swelling in the groin. These were treated by a doctor, but he can give me no particulars. I examined her at that time for the rash, but I did not notice any abdominal enlargement. Quite recently she had been Dr. Browne's patient for arthritis of the ankle, but complained of no abdominal inconvenience till a day or so before admission. She first menstruated at twenty, and has been very irregular throughout, sometimes missing several months. Her menses lasted usually a day, were very scanty, and were accompanied with great pain. Since her first admission into the hospital in June, 1890, she has not seen anything, and she thinks not for some time before; possibly not since she last indulged in sexual intercourse, the result of which was the vaginal discharge.

On admission, her ankle was swollen and walking difficult, the left thigh cedematous and tender, urination frequent and painful, and a large swelling occupied her abdomen, extending well above the umbilicus. A catheter showed the urethra and bladder normal. Rectal examinations: a tight, rounded tumor, filling the pelvis and flattening the rectum against the sacrum, and vaginally the finger encountered an elastic swelling bulging between the majora and yielding to pressure. At the upper part of the distended hymen were some cribriform markings, but no visible cicatrix. On abdominal palpation was felt a large, tense swelling, rising out of the pelvis, extending almost to the umbilicus, and continuous with a smaller and harder tumor that reached two inches above the umbilicus, and was of the shape of the enlarged uterus. From the upper angles of the smaller tumor could be distinctly traced two hard, cord-like bodies, extending one toward each iliac fossa, and ending in ovoid enlargements. Percussion over the umbilicus gave a distinct thrill to the bulging hymen, and a

hypodermic syringe introduced into it withdrew the characteristic tarry fluid of retained menses.

Dr. Browne and Dr. Paoli saw the case, and we agreed to tap. The smallest trocar was entered a little above the center of the hymen, and the fluid was very slowly withdrawn. After it had ceased to flow, a bistoury, guided in on the cannula, made a permanent opening. A large uterine irrigator was introduced into this, and the vagina—enormously dilated—was washed out with a hot saturated solution of boric acid till the fluid came away clear. The opening was dressed with salicylic wool. The syringing was continued daily for the next ten days; the discharge, which never became offensive, ceased in five, and the temperature on the two nights following the operation just reached 100° and then became normal.

The patient never had any abdominal tenderness, was kept in bed for three weeks, and at the end of that period menstruated freely and easily.

Vaginal examination immediately after the operation showed the vagina to be an immense cloaca filling all the pelvis, and the finger could detect at the top a large ring of soft tissue representing the changed cervix. I examined her on Saturday, the 4th of April. The hymenal opening is now quite patent, the vagina has almost recovered its usual shape and consistence, but the cervix is still soft and swollen (though much smaller), and the os admits the tip of a small finger. Her menses are now regular and easy.

NOTES.—1. Acquired atresia of the hymen or the lower part of the vagina seems to be rather a rare condition. Dr. Matthews Duncan, in his *Clinical Lectures*, says: "Sometimes the vagina becomes closed by the healing of sores, the result of sloughing from pressure during parturition, or the result of syphilitic infection; but though cases of stricture, more or less tight, and having a small lumen from these causes, are not uncommon, I have not seen one of complete closure (atresia), with retention and accumulation."

In this case I should think the atresia was produced either by the healing of a syphilitic sore (though no scar was visible), or by the efforts at intercourse producing inflammation of a tough hymen with possibly a very small opening.

2. The total absence of subjective symptoms. She never noticed her increase in size

even till the dysuria called her attention to it.

3. The fluid removed measured sixty-five ounces. Duncan says the quantity of accumulation varies much; that in his own practice he never saw more than fifty ounces, though he had heard of a well-authenticated case which had one hundred and five ounces.

#### THE ULTIMATE RESULTS OF VAGINAL HYSTERECTOMY FOR CANCER.

Leisse (*Archiv für Gynäkologie*, Band xl, Heft 2) replies to the criticisms of the statistics of the Dresden clinic by presenting a tabulated statement of the histories of all the patients, so far as they could be obtained. These are compiled with great care. Of eighty patients who were heard from upwards of two years after the operation, 56.25 per cent. were still living. Since eight of the deaths were not due to a recurrence of the disease, this leaves the actual mortality only 17.8 per cent. Thirty-seven of the forty-five surviving patients were examined at the clinic, so that there was no question as to their local condition, and in the other cases reports were received from competent physicians. The following are the facts: Of eighty patients examined over two years after operation, forty-five were free from recurrence; 58.6 per cent. (out of fifty-eight patients examined) were well after three years; 59.5 per cent. (out of forty-two) after four years; 60 per cent. (out of thirty) after five years; 66.6 per cent. (out of nine) after six years; and the two patients who had survived the operation seven years were both perfectly well.

#### COMPLETE AMENORRHEA IN A FERTILE WOMAN.

Dr. Marion Dunagan (*Archives of Gynec.*, August, 1891) states that a pregnant colored woman, already the mother of ten children, assured him that she never menstruated in her life, and was 19 years old and the mother of two children before she knew that such a phenomenon occurred in women. She was an unusually stout and healthy woman, did hard work constantly for her living, and the only inconvenience that she experienced was an occasional swimming in the head, which was but trifling. Dr. Dunagan holds this case proves conclusively that menstruation and ovulation are not essential to nor dependent upon each other.—*Brit. Med. Jour.*



## OBSTETRICS.

## EARLY CURETTING IN PUERPERAL INFECTION.

M. Charrier discusses (*Archives Générales de Médecine*, August, 1891) early curetting as a prophylactic and therapeutical measure in puerperal infection. It is only of recent years that the uterus after delivery has been looked upon as a wounded surface, and the difficulty of keeping this wound healthy and aseptic is shown by the not inconsiderable number of women in whom delivery, and more especially abortion, has been the starting point of a number of more or less serious accidents. The fever may be of short duration, and the infection an attenuated one, but as soon as the patient returns to her ordinary life the trouble begins. Most often the operation of early curetting is one of urgency, and there is little time for preparing the patient. M. Pozzi looks upon repeated shivering, a temperature of over 39° C. in the axilla, the general state of the patient, the pulse, etc., as affording pressing indications. The curetting is done in much the usual way with strict antiseptic precautions and with great gentleness, a blunt and non-cutting instrument being used. The uterus is washed out, and the cavity tamponed with iodoform gauze. Anæsthesia is not necessary. The amount of fœtid *débris* brought away may be extraordinary. The author says that this treatment is indicated in cases of slighter infection, when abdominal tenderness, less marked fever, and fœtid lochial discharge are present. Antiseptic injections may render the *débris* powerless from a bacteriological point of view, but such patients do not thoroughly recover. The objections raised against this treatment are that intra-uterine washing out is most often sufficient; and, secondly, the supposed gravity of curetting the uterus after delivery. But if anything remains behind in the uterus these injections cannot be counted upon; and, again, if the operation is done with care, it is never followed by evil consequences. Puerperal accidents, rare nowadays, will no longer be feared if washing out the uterus and curetting be used. If this treatment of puerperal infection has not as yet passed into practice it is because it has been adopted too late in the case, or has not been carried out with the necessary precautions. If this be done, the maladies of the uterus and appendages appearing later will be diminished in numbers. M. Charrier gives

details of five illustrative cases.—*Brit. Med. Jour.*

## INDICATIONS FOR CÆSARIAN OPERATION.

Piskacek (*Arch. d'Obstet. et de Gyn.*, April, 1891). In absolute contraction of the pelvis the author pronounces himself in favor of the Porro operation. His reason is the danger of a second Cæsarian section in the event of a new pregnancy and the risk of uterine rupture should the operation not be done immediately at the onset of labor.

In pelves flattened less than to 7½ c.m. and in pelves generally contracted to 7 c.m. neither version, perforation nor the conservative Cæsarian section is to be thought of so long as the time for premature labor has not passed.

If the pelvis has a diameter of less than 7 c.m. he advises Porro (on election of the mother) to prevent a subsequent pregnancy. If the woman rejects abdominal section, even though the child cannot be saved by induced labor, the latter operation or induced abortion must nevertheless be done in the presence of absolute contraction.

Podalic version as an alternative of section on the relative indication, an atypical application of the forceps or embryotomy on the living child will the more rarely be the choice of procedure the less time is lost in waiting. With the primipara version must never be preferred. With multiparæ it must be resorted to only in the most favorable conditions.

The author thinks the infantile mortality of craniotomy is compensated in a year by the possibility of having a living child in another pregnancy and the fact that women after Cæsarian section do not readily become pregnant again, to say nothing of the mortality of the Cæsarian operation. Thus Cæsarian section is conservative only in certain conditions, that is to say in conditions favorable to the operation, for example when a living birth is impossible at or near term, per vias naturales, when the mother desires expressly to have a living child and assents to the operation after the danger has been fully explained to her.

In the main Piskacek employs Cæsarian section in multiparæ only when they have lost their children in previous births. In primiparæ there can be no question when there is at the beginning of labor a rigidity of the cervix that threatens rupture of the uterus. In all other cases he considers per-

foration practiced upon the living foetus not only legitimate but imperative. Only the conservative operation of Saenger and not the Porro can come in competition with perforation.

#### A CHILD CRYING IN UTERO.

Dr. McLean reported the following case: (*Trans. N. Y. Obstet. Soc.*) In August last, I was called to see Mrs. S., æt. 30, in labor at term with her fourth child. The waters had escaped, and while rectifying a malposition of the head by the insertion of the hand to the pelvic brim, atmospheric air was admitted to the uterus, and the child commenced respiration and crying in utero. The occiput was turned forward. While I was applying the forceps, the child was crying lustily, the voice sounding as if coming from the cellar. Others heard it, and it was curious to note the consternation in their faces. This crying was kept up for four or five minutes, when delivery was safely accomplished. The mother and child did well. The air was expelled with the secundines. I had never known such a thing to occur. The case is entirely different from those cases frequently seen of spasmodic cries while the child's head is in the vagina; the head was in the uterus and in fact slipped away from my hand several times, crying all the time. This phenomenon was witnessed by Dr. Tracy and the nurse present.

#### PÆDIATRICS.

##### SPURIOUS WHOOPING-COUGH.

Prof. Hobart A. Hare in a lecture at the University of Pennsylvania, said: You are probably aware that whooping-cough, while always existing in large cities in sporadic cases, occurs, as a rule, in epidemics which may be long-continued or short in their duration. At the present time this city is thus afflicted, and during the early spring months of last year a large number of cases were presented at this clinic. You have, in consequence, seen so much of this disease that I should not have brought this boy before you were it not to show you an aberrant form of pertussis, if we can so designate it. The child, who is 5 years of age, has been suffering with a spasmodic cough without the development of any whoop for some four weeks, and has not lost its appetite, strength or sleep during that time. While the cough frequently occurs at night, the patient is

only partly aroused, and, as soon as the spasmodic expiratory movements cease, falls back on his pillow and is at once in slumber. On only one or two occasions have the spasms interfered with the breathing sufficiently to alarm the parents, and these only lasted for a few moments. There has not been vomiting, conjunctival or aural hæmorrhage, nor any nose-bleed, all of which symptoms may appear in cases of well-developed or severe whooping-cough. Practically, then, the only thing we are asked to do for this child is to discover the cause of the cough and to remove it, if possible. As you are probably aware, cough is a frequent symptom of many conditions not directly affecting the air passages, and it may arise from gastric disturbances which are acute or chronic, from intestinal irritation, from the drying of the mucous membrane of the larynx by the heat of fever, and in other cases it may be a habit which is as difficult to cure as chorea. Cough may also be due to relaxation or hypertrophy of the uvula, to enlarged tonsils and nasal disease. Besides these causes we have, of course, the acute diseases of the respiratory system. On examining this boy, however, we find that none of those conditions predisposing to cough can be said to exist, and the lungs are perfectly normal, while the bronchial tubes contain very few râles which are not constantly heard. As I have already told you, his appetite and general health are unimpaired; and his tongue, you notice, is unusually clean and devoid of those appearances indicating gastric or intestinal trouble. He is not a nervous child, and has never had chorea or any nervous affection. The cough is not a habit cough, as it is too violent and prolonged, and the expiratory efforts are so frequently repeated before inspiration occurs that some cyanosis or reddening of the face occurs. The case lacks all the other signs common to whooping-cough except this series of expiratory spasms; and the chest, as I have stated, is free from the signs of bronchitis, nearly always accompanying this disease to greater or less extent. Having told you everything that the case is not, you are probably waiting for a description of what it is. So far as I am able to determine, it is a case of spurious or abortive whooping-cough, a diseased condition which seems to have been quite common during this month and last, for I have seen several other cases which were equally marked. Very recently, Guido described to the Italian Congress of Pædiatry (Rome, 1890) a form of paroxysmal and spasmodic cough which resembles whooping-

cough, and yet which is not the true disease. He noticed a great number of these attacks during the epidemic of influenza, and the following distinguishing features were noted:

There was a greater frequency of the attacks at night than in the day, there was almost never any vomiting, and the signs of bronchitis were less disseminated than is usual in whooping-cough. There was absence of hæmorrhage and of the bacillus of Afanasieff, which, you remember, is supposed to be pathognomonic of pertussis. In five autopsies there was found a lesion in the pharynx and not in the larynx. The treatment consisted in the administration of antispasmodics, the bromides and those measures which are generally employed against true whooping-cough.

Gueneau de Mussy has also recognized a pseudo-pertussis which is practically identical with that of Guido and thinks it a symptom indicative of reflex irritation of the pneumogastric nerve following direct irritation of lymphatic ganglia. Indirectly it may arise from hypertrophy of the nasal mucous membrane, and Tasano states that he has seen a case in which cure followed the excision of the hypertrophied tissue. These cases seen by Tasano, if accompanied invariably by nasal lesion, can only be considered as reflex coughs, and rarely the disease of which we are speaking. If due to nasal hypertrophies, the cough should be constant, but in all the cases named it has run a definite course of five or six weeks.

I do not know what to consider the cause of the attack in this child, unless it be some state coincident with the conditions consequent upon the recent epidemic of la grippe, which is even now scourging our Western cities. This, as I have just stated, is the opinion of Guido in regard to his cases. The treatment is identical with that usually employed in whooping-cough—namely, full doses of antipyrin or acetanilide three times a day, accompanied by one grain of tannate of quinine in a quinine chocolate morning and night. By full doses of antipyrin and acetanilide, I mean one grain of the former and one-half grain of the latter at each dose for a child of five years. If cyanosis comes on, the dose must be decreased. Small doses of the bromides are also of service. Lactucarium is useless except in the form of the syrup as a vehicle.—*Ann. Gynæ. Pæd.*

#### EPHYPHYSEAL FRACTURES IN THE TREATMENT OF WHITE SWELLING.

Iscovesco (*Rev. Mens. des Mal. de l'Enf.*, May, 1891) has observed epiphyseal frac-

tures in two cases of coxalgia, and in two cases of white swelling of the knee, which were produced during attempts at treatment of the joint. He draws the following conclusions:

1. In certain cases of chronic articular disease there is true softening of the contiguous epiphyseal cartilages.
2. In the four cases referred to the children were under ten years of age.
3. In none of the cases did the fracture of the epiphysis appear to affect the prognosis unfavorably.
4. When this accident occurs it is necessary to treat the limb by immobilization with extension in a favorable position.
5. In the cases referred to, not only did the fractures undergo favorable evolution, but they seemed even to have a favorable influence upon the evolution of the articular disease, so that it is an open question whether osteoclasis of the contiguous joint might not be a favorable adjunct in the treatment of white swelling.

#### HYGIENE.

##### PARASITES IN MALARIA.

Since Laveran discovered a parasite in the blood of several patients suffering from malarial fever ten or twelve years ago, many other observations on this interesting subject have been made both by himself and by many other writers, Continental, American, and Indian. One of the latest papers on the subject is a dissertation by Dr. Romanovski, of St. Petersburg. He thinks that the malarial parasites are so inseparably associated with the disease that the blood of patients supposed to be suffering from malaria ought to be examined as a matter of routine, as the sputum of phthisical patients is, for microbes. He finds that the amœboid parasite of tertian fever has a nucleus which acts by means of a fibrous metamorphosis of the chromatin network, and not by a direct method. When quinine is administered in sufficient doses it causes the destruction of the amœboid parasite, the degeneration, which is easily observed, chiefly affecting the nucleus. With regard to the prescription of quinine, he says that it should be given in two doses of about fifteen grains each during the twelve hours immediately preceding the attack, because during that period the number of adult parasites is at its maximum. From some observations made with tincture of sunflower Dr. Romanovski was led to the conclusion that



this drug, though not without its influence on malarial fever, cannot be considered as a satisfactory substitute for quinine. He appends to his work references to more than 120 articles bearing on the subject, some few of which are in Russian, but the great bulk are in more accessible languages.—*Lancet*.

#### IS TYPEWRITING INJURIOUS TO THE EYES?

In this age of typewriters, the question suggested is one of interest, at least to eye specialists.

In a letter to the *New York Medical Times*, Dr. Geo. L. Freeman discusses the fallacy of the current opinion that typewriting is necessarily injurious to the eye.

As indicative of what expresses the present opinion, we quote the following paragraph which has been going the rounds of the medical press:

Almost every typewriter, sooner or later, has trouble with his eyes. The typewriting machine is supposed to save the eyes, but the effect is quite the contrary. The eyes are all the time in motion while writing, and the rapid jerking of the eye from one point to another on the little keyboard soon tires the muscles and makes the eyes, and sometimes the whole head, ache. Then a great many girls have the habit of turning up the carriage to see what has been written, and leaning back in the chair while reading it. This, too, is bad, for the reason that it requires a rapid adjustment of the eye to the different distances, and so tires the whole organ. The only way to save the eye when using a typewriting machine is to acquire such facility that it is not necessary to look at the keyboard, and the eyes will be saved the thousands of little jerks to and fro which do so much harm.

Dr. Freeman then cites his own experience as follows:

I have been using a typewriter for about ten years, and during the latter half of this period with the left hand alone, the right hand being disabled. I was first led to try the machine by reading a very emphatic testimonial in its favor by the eminent English ophthalmologist, R. Brudenell Carter, who stated that he had found it of the greatest assistance to himself, and especially recommended it in cases where the sight was weak or imperfect in any way. This should be almost enough to settle the question, even if the above quoted objection founded on *eye-jerking* were not so palpably nonsensical.

But I would invite the contribution of further evidence on this point, both from specialists and professional typewriters. I do not believe that "almost every typewriter has trouble with her eyes"—or *his*, either. Are not most people, while awake, constantly adjusting the organ to different distances, with as much rapidity as when looking at "the little keyboard?" From my own experience, I am firmly convinced that physicians, instead of finding fault with these admirable contrivances, ought to be the strongest advocates of their more extended employment.—*Medical Age*.

#### MEDICAL CHEMISTRY.

##### A NEW ALBUMEN TEST.

In *Fresenius' Zeitschrift für Angewandte Chemie*, Dr. A. Jolles gives the following test for albumen in urine, which he claims to be sensitive to within one one-hundredth of one per cent. of albumen. To 10 ccm. of the suspected urine add an equal amount of strong hydrochloric acid. Do not agitate the mixture, but immediately add with a pipette two or three drops of liquor calcis chlorinatæ. If albumen be present, a white turbidity will at once show itself in the upper part of the tube.

##### METHOD OF DISTINGUISHING THE BUTTER OF MARGARIN FROM NATURAL BUTTER, WITH NITRATE OF SILVER.

By this reagent, M. Brulle has succeeded in distinguishing the butter of margarin. Treated by this reagent, natural butter preserves its color, while pure margarin becomes brick red. This latter tint is less apparent when treating a butter to which margarin has been added; nevertheless, the practiced eye can readily recognize a mixture not containing more than 5 per cent. of margarin; with 10 per cent., the red tint is very pronounced.

##### GALLATE OF BISMUTH, OR DERMATOL.

Under the singular name of "dermatol," Dr. R. Heintz, a medical practitioner residing at Breslau, designates a chemical preparation which is said to be quite new, namely, the *basic gallate of bismuth*, and he recommends this compound as an antiseptic capable of being employed as a substitute for iodoform in the dressing of wounds and

ulcers, etc. The basic gallate of bismuth, or dermatol, presents itself as a fine, absolutely inodorous powder of a saffron-yellow color. It is non-hygroscopic, and appears to be quite unaffected by exposure to light and to the air. As this compound is insoluble in ordinary liquids, it can only be employed as a powder. Besides its antiseptic properties, which are said by Dr. R. Heintz to be strong, he claims also for it a stimulant and astringent action, which makes it valuable in the treatment of wounds and ulcers, and tends to hasten their cicatrization. He states, moreover, that, "on account of its insolubility," poisoning by it is impossible; but sulphate of baryta, which is a perfectly insoluble powder, acts as a poison and has been used for killing rats, etc. Dermatol, we are assured, does not produce any local irritation whatever, and, according to the writer above named, it may be substituted for iodoform in all cases where the latter is indicated, and may actually be used internally, he says, in the dose of 30 grains per diem, in diseases of the digestive tract, especially in the profuse diarrhoea which is present in catarrhal and ulcerous affections of the intestines. That we have here a new and non-irritant powder, supposed to possess strong antiseptic powers and to possess astringent qualities, no one will deny; but that it will replace iodoform in all its indications is saying more than any practitioner will accept, though it may prove equal to the latter in the external treatment of ulcers, and prove applicable in certain cases, for instance in diarrhoea, where iodoform would not be prescribed. In this instance it would be calculated to replace the subnitrate of bismuth with advantage, as being more astringent and perhaps possessing greater antiseptic powers.—*Monthly Magazine.*

## NEWS AND MISCELLANY.

### CINCHONA CROP OF 1890 IN JAVA.

The official report of the government cinchona plantation in Java states that the crop of 1890 amounts to 534,562 pounds, 142,398 pounds being cinchona succirubra, 6,447 pounds cinchona Josephiana, 342,271 pounds cinchona ledgeriana, and 43,448 pounds cinchona officinalis; 100,000 pounds of bark were collected in the first quarter of 1891. The bark sold at Amsterdam out of the crop of 1890 sold for 1½ pence per unit for common kinds. The cinchona ledger-

iana brought good prices, and even better ones were realized by the bark of the cinchona succirubra, viz., up to 2s 4d per pound. The "Melattie" Company's cinchona plantations in Java have done well in 1890, and the shareholders receive a dividend of 11 per cent., after placing £250 to reserve, and writing off £166.

### THE CHINESE TREATMENT OF HYDROPHOBIA.

A Chinese journal, referring to the dangers of hydrophobia, points out that the European doctors have not yet discovered an effective treatment for this disease. In order to determine whether the disease is really hydrophobia, the following method is recommended by a Chinese contemporary for this purpose: Get a gong or any large brass utensil and strike it before the patient. If he is suffering from hydrophobia he will at once show signs of madness; then fan him with a large palm-leaf fan, and he will crouch down as if in great fear. When the presence of the disease is thus ascertained, the next step that should be taken—a most important one—is to search the hair of the patient. There will certainly be found one hair of the color of vermilion, and rather stronger and coarser than ordinary hair. This particular hair should be entirely pulled out, not even the smallest part of the root must be left, otherwise the disease cannot be cured. When this has been done a prescription must be prepared, and the drugs used should be of such a nature as will expel the poison from the place in which it is.—*Brit. Med. Jour.*

### CHOLERA IN CHINA AND JAPAN.

That dreaded scourge, the cholera, a correspondent writing from Shanghai, China, says, is rapidly beginning its annual ravages. It had been confidently hoped that as the summer passed and few serious cases of the plague occurred, the year might run by without the fatality which has overtaken Chinese cities in past years. But within the past fortnight the disease has been gaining headway rapidly, and already seven Europeans are known to have suddenly died from cholera. That the disease has been playing havoc in the native-crowded cities has been known, but its attacks upon foreigners, who had thus far managed to ward it off, is something almost unprecedented, and augurs badly for the settlements of foreigners along the Chinese coast.

Physicians who have been familiar with Asiatic cholera in all its forms for several years think that unless the winter season with its frosts sets in early and checks the spread of the plague the mortality during September and October bids fair to be very great, probably surpassing that of the same months of last year. The hot, dry summer which Eastern China has just experienced, and the consequent illnesses of the mass of the people, have rendered them particularly liable to catch the germs of the disease and their constitutions little liable to withstand its ravages.

At Amoy and Foo-Choo the number of daily deaths is, indeed, alarming, and at Foo-Choo, a large city near Shanghai, the mortality has been much more serious than during last summer, when it raged so terribly throughout this region.

In Japan, also, the returns show a gradual increase in the number of deaths in the larger cities, Nagasaki heading the list. On account of the great loss experienced last year by the disease checking the usual influx of summer visitors and the trade of foreign steamers, the Japanese authorities are trying to keep the spread of the cholera from public knowledge, and it is only from private sources that the true state of affairs is known. The Japanese seem to be as subject to the disease as the Chinese, and the mortality seems almost as great, in spite of the better climate and medical aid with which Japan is equipped.

#### THE APPETITE OF OUR ANCESTORS.

Although our modern ways of cooking are more refined, and all sorts of spices are employed to whet our appetites, it is a lamentable fact that we cannot approach our ancestors in the amounts of food with which they were able to regale themselves.

*The Journal de la Sante* cites the following from an old book on cookery, dated 1523:

"On the 6th of August of this year a certain nobleman dined, as was his custom, in the apartment of his wife. The dinner was an ordinary one consisting of two services, one of which was partaken of by all the servants. There were a few guests. The meal was simple but substantial. First service: boiled capon, breast of mutton, a piece of beef and kid, a swan, a pig, a breast of veal, roasted capon, custard. Second service: Pullets, quails, pigeon, a venison pie and several tarts."

To illustrate the vigorous appetite of the women of those times, the following is quoted from the same book: "On the 24th of October of this year, two ladies breakfasted on the following: A piece of beef, a goose, sweet-breads and a capon." That is not bad for a simple breakfast.—*Dietetic Gazette*.

#### ENORMOUS MICROSCOPE.

The Poeller Physical Optical Institute, of Munich, have under construction an enormous microscope for exhibition at Chicago in 1893. It will magnify to 16,000 diameters, or, as ordinarily fitted, to 11,000 diameters. An electric light of 11,000 candle-power is to be used for illuminating the image, which is to be projected on a screen. As the heat from this powerful light would derange the focus by expansion of the metal, an ingenious device is used to cool the metal. This is a small copper cylinder filled with liquid carbonic acid under a pressure of 350 pounds to the square inch. It is connected with the microscope in such a manner that an electric regulator automatically opens a valve and allows a drop of the acid to escape in a spray on the metal to be cooled. The liquid immediately evaporates and produces intense cold. The whole cost of the instrument is said to be nearly \$10,000.—*Scientific American*.

#### HOW TO LAUGH AT THE MOSQUITO.

I notice that some one recommends the use of camphor against the mosquito nuisance. I have used camphor for this purpose for some time, though I have not found it necessary to burn it. I take a piece of camphor fully an inch square and half an inch thick; this I lay on the bureau—always exposed—in daytime, and on or near the pillow at night. This is the only remedy I ever tried that afforded thorough relief. Even a mosquito bar lets the mosquito in and bars the air out. Have two windows and door of the room wide open, no bars, and draft through. Have not been annoyed by mosquitoes since using the camphor, except to a very light extent for a night or two in case of storm and unusual draft through the room. I think then an additional piece or two of camphor would have prevented that. The mosquito has been a great annoyance to me, but I feel that I can now laugh at him. If others find the remedy as effectual as I have it will be a boon.—*Exchange*.